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by J. E. SMITH

JANUARY

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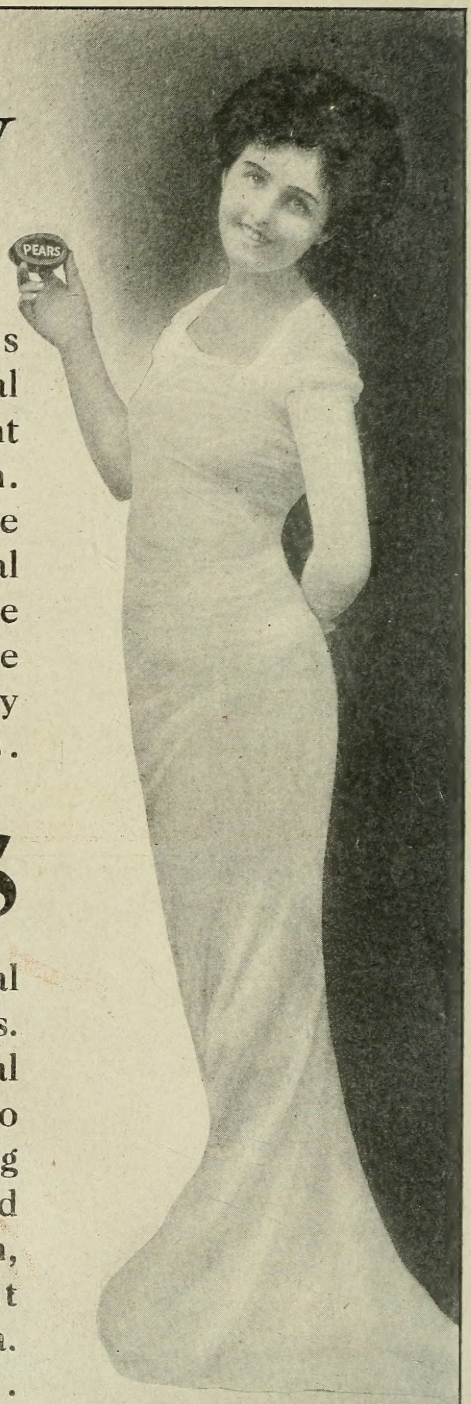

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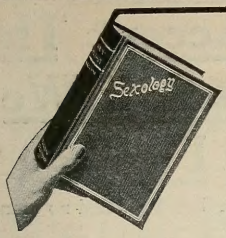

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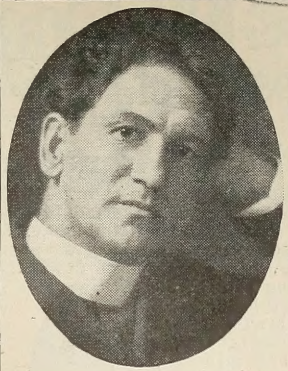

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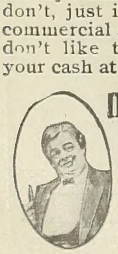

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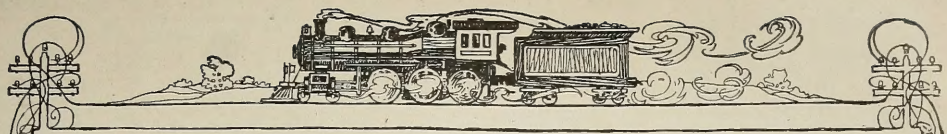

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THE RAILROAD MAN'S MAGAZINE

Vol. X. JANUARY, 1910. No. 4.

When the Rules Were Broken.

BY CHARLES F. ANDERSON.

DISCIPLINE among railroad men is almost as strict, under normal conditions, as it is in the army. Where so many thousands of passengers and so many hundreds of tons of freight must be handled daily, it is absolutely necessary that rules should be stringent and that their violation should be rigidly punished.

But that does not mean that there is no room left for the individual to use his judgment. Emergencies arise frequently in which the rules give no help—when they may, on the contrary, be a direct hindrance. Then the rules must be broken. So, in addition to being good workmen, railroaders must have tact and judgment and something of that quality of foresight and independence of thought that makes a good diplomat.

Instances Which Show That It's a Wise Railroad Man Who Knows When to Obey the Rules and When to Break Them.

"WE'LL get that statue to Memphis if we have to break every rule in the code."

Thus spoke an official of the Seaboard Air Line, in accepting for delivery the huge bronze equestrian statue of General Forrest, which was unveiled in Memphis a few years ago, and the Seaboard proceeded forthwith to break whole pages of rules set forth in the Standard Code—the book of regulations issued by the American Railway Association.

It happened in this way: The enormous model of the statue of the distinguished cavalryman, by Charles Henry Niehaus, a New York sculptor, was sent to the Maison Gruet, bronze founders, of Paris. When the statue in bronze was ready for shipment, its height was such that it could not be taken to a seaport by rail, hence was floated down the Seine on a barge to Havre.

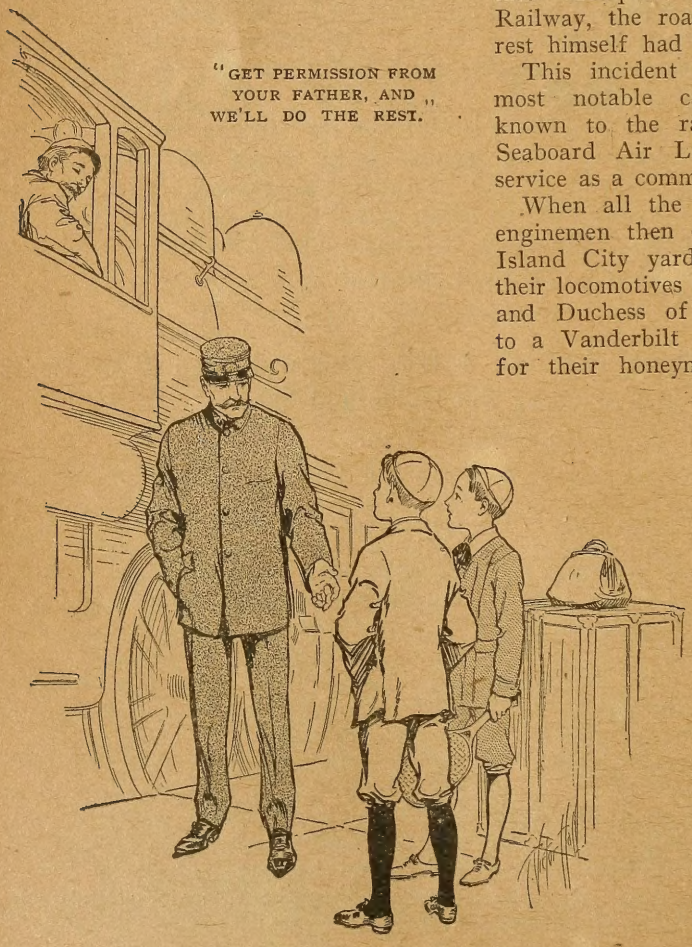
Upon its arrival in New York, the same difficulty as to rail transportation presented itself. After weeks of delay, the Seaboard sent it by sea to Savannah, thence on its way by rail to Atlanta. Approaching the Georgia capital, however, came the supreme difficulty, in

overcoming which so many rules were broken.

Bridges of insufficient height blocked the statue's way. It was side-tracked. Then followed a powwow of the shipping-agents, members of the statue committee, and the sculptor, seeking a way to get the statue past the low bridges without subversion of rules. The whole press of the South teemed with suggestions, many of them as humorous as they were impossible, and still the monument remained on the siding.

Then came the crucial decision. The statue must either be got to Memphis or the company own themselves beaten and a great public disappointment occur.

It was then that the Seaboard official said "Break the rules!" He ordered a wrecking-train to go ahead of the freight-train carrying the statue, and "lift the bridges"—heroic measure in behalf of a heroic public work of art.



"GET PERMISSION FROM YOUR FATHER, AND WE'LL DO THE REST.

In lifting the bridges, however, all the railroad rules were broken in regard to impeding or obstructing road (carriage and wagon) traffic. Passenger-trains were delayed by a freight-train, in violation of an obvious regulation. Loaded freight-trains having the right of way were held up for a time by the "Forrest Statue Train," as it was called by the press, the company thus contravening its own code as to the movement of trains.

The sacred schedule became temporarily a thing of confusion confounded. The customary mathematical precision of operation called for by the regulations was suspended, and many railroad men were compelled to work overtime, in opposition to the rules laid down.

Finally, however, the statue was run into Memphis over the Birmingham Railway, the road which General Forrest himself had built.

This incident constitutes one of the most notable cases of rule-breaking known to the railway world, but the Seaboard Air Line rendered a public service as a common carrier.

When all the Long Island Railroad enginemen then on trains in the Long Island City yard blew the whistles of their locomotives as a salute to the Duke and Duchess of Marlborough starting to a Vanderbilt estate on Long Island for their honeymoon, the men in the engine-cabs violated Train Rule 32—"The unnecessary use of the whistle is prohibited. It will be used only as prescribed by rule or law, or to prevent accident."

A rule may be violated for several causes, such as the public welfare or safety, expediency in particular circumstances of the moment, humanitarian reasons consistent with the Golden Rule, averting friction in the working

of the railroad machine called organization, reasons of diplomacy. No rule is so inflexible that it cannot be bent or stretched, if not broken, in any of these cases.

Above all, a rule may be broken for the good of the railway service. For example, the very first of rules was broken in this laudable cause, to make possible the writing of this article.

The Book of Rules, the Hoyle of the railroad game, testament of railroad men, to go counter to which is tantamount to blasphemy, was loaned to one not a railway employee. A journalist was allowed to take the "Standard Code," and to keep it forever and ever. Yet the very first rule in that volume is that it shall be loaned only to employees of railways belonging to the American Railway Association.

Why, then, was the alpha of rules broken? Railroad officials seek to educate the people on railway matters, thus to induce them to keep on the hop, skip, and jump. By loaning the rules to "one not an employee," the railway official who gave the journalist the volume for reference in writing a railroad article saw a chance for further public education in respect to railway travel. So a rule was deliberately broken—for the good of the service.

Sometimes a minor train rule may be broken at the discretion of engineman or conductor; as, for illustration, by allowing other than the "proper employees" (presumably enginemen and firemen) to ride on a locomotive.

Courtesy to the President.

On one occasion, two of the Roosevelt children, at the Oyster Bay railroad station, asked, without previous notice, to be permitted to "take a ride on the engine." The train was about to pull out, and the engineman and conductor went into executive session. On the one hand was the prohibitory rule; on the other, a possible discourtesy to the Chief Magistrate of the nation. Further, there was Rule 106 of the Standard Code—"In all cases of doubt or uncertainty, the safe course must be taken and no risks run."

"We'll compromise," said the engineer to the conductor. And, turning to the children, he added: "You get permission from your father, and we'll do the rest."

Forthwith the telephone to Sagamore Hill was worked "and the youngsters got a ride to Mineola," said the conductor, afterward relating the incident.

Certain railroad rules are made, not to be strictly enforced on any and every occasion, but merely for use when certain tacit privileges are abused.

For example, to drape a car in bunting, flags, banners, or signs advertising any article, company, or organization, is forbidden on many roads. Yet this rule is often broken, with the tacit consent of railroad authorities. Did the rule not exist, any manufacturer of pills, porous-plasters, or other commodity, could buy all the space on a Pullman and drape the car's exterior with posters setting forth the merits of his wares.

For W. J. Bryan's Sake.

When, however, an organization purely religious, political, or patriotic in character, goes forth on an excursion and wishes to display banners or bunting, it is usually permitted to do so.

A train containing a delegation from the West, en route to New York to welcome William Jennings Bryan (not the "Nebraska Home Folks," who came over the Pennsylvania, but a party of Missourians and others) arrived at Buffalo. The delegates traveled in a special Pullman, which was decorated with bunting and banners bearing political war-cries.

A railroad authority ordered that the offending drapery be removed. Delegates expostulated. Authority remained obdurate, quoting the rules.

A discussion ensued, delaying the train. Then along came a higher officer.

"Pass that car, war-cries and all!" he ordered. "Though I can't guarantee," he added, "that you will get into New York City with your banners out."

"All or nothing!" cried the delegates, declaring that they would tear off the banners, despite the permission of the officer to go as far as they could unless permission was also granted to go right through. When the train pulled out of Buffalo, however, the decorations still remained in place.

That officer broke a rule, "for the good of the service."

On the Harriman roads all general orders were issued by the late E. H. Harriman himself. To disobey a Harriman order was a crime somewhat analogous to *lese majesté* in the realm of the German Emperor.

Harriman's Non-Zigzag Rule.

One day the "Czar of the Union and Southern Pacifics" issued an order decreeing that the maps of his lines should no longer be printed in such a way as to make it appear that they are all short cuts, or air lines, but should thereafter show the exact course of the rails, every slightest curve and zigzag to be represented exactly.

The first new Southern Pacific map that came to Mr. Harriman after this decree showed the usual air-line course direct from New Orleans to San Francisco. Mr. Harriman gazed in wonder. Had he not with his own voice dictated to his stenographer an order, and had he not signed it with his own hand? And here was a line as straight as the road to Heaven, when it should have been as crooked as the road to—well, somewhere else.

"Send me the man that made this map!" he thundered.

Into his presence came the guilty draftsman.

"You are angry, sir, of course; but you would have been more angry if we had issued—this."

And he thrust before his president a map wherein the course of the Southern Pacific resembled a Weather Bureau temperature diagram. Every trembling curve and zigzag between the Crescent City and the Golden Gate was limned forth minutely; even all the windings and twistings and switchbacks in the scenic approach to the third highest railroad bridge in the world at the Pécos Cañon in Texas, were shown on that map.

Mr. Harriman crumpled it up and hurled it into the waste-basket.

Then, turning to the draftsman, he said softly, with a twinkle in his eye:

"Get me a copy of that order. It needs editing."

It is better to break a rule now and then than to cause friction in the railroad machine by adhering in every case to the strict letter of a rule. Railroad men vouch for the truth of this axiom, for they tell of men who have been discharged for not breaking the rules.

James J. Hill discharged two men because they refused to obey the mandates of their testament. First, when the "King of the Northwest" was managing the St. Paul, Minnesota and Manitoba Railway, he taught the lumbermen in his territory how to pack shingles in flat, square packages, by alternating the thick and thin ends of the boards. Then he put into force a rule that all shingles shipped should be so packed.

One day, at a station, he overheard an altercation between a shipper and a freight clerk, the clerk refusing to receive shingles that were not packed according to regulations.

"But ship the goods first, and complain afterward," the shipper was saying, "for these shingles are wanted up the road in a hurry, and if they don't go by this train I shall lose the sale."

Hill Makes Exceptions.

"Can't take 'em," persisted the clerk, stubbornly sticking to rules.

"You're too fresh at this business, young fellow," retorted the shipper. "You're always making trouble at this point with your everlasting rules."

"See here, young man," said Mr. Hill, stepping forward, "ship those shingles as they are."

The clerk gasped—he recognized the president of the road.

Next day the clerk was discharged by telegraph without explanation. No attempt was made to remedy his methods because they were constitutional and not curable by regulations. He was simply "incompetent," for the reason that he caused needless friction.

"Too much yard-stick," said men down the line, "will break the best man." Which, being interpreted means that too close adherence to the rules will, under certain circumstances, lead to the discharge of an otherwise valuable man.

In the second instance, Mr. Hill acquired a large interest in the stock of the

WHEN HE HAD COVERED THE QUICKEST MILE OF HIS CAREER, HE SAW THE LOADED FREIGHT COMING, TEARING ALONG WITH ALL THE SELF-CONFIDENCE OF RIGHT OF WAY.

St. Paul and Pacific Railroad. While visiting the main offices of the road, he glanced into one large room and asked with some asperity:

"How many clerks here?"

"Eighty-five, sir."

"Can't you do with fewer?"

"No, sir. The rules specify employment in this office for eighty-five men."

"Rules, eh! Well, I'll get a man who can break 'em."

Truesdale's Rest-Cure Rule.

On the Lackawanna road an order has long been in force making it, so far as possible, mandatory upon its employees to take at least eight hours' rest in each twenty-four.

"In this rule," says President Truesdale, "we merely carry into formal effect a recognized scientific principle. The railroad business is such that the men engaged, particularly in the passenger, freight, and telegraph services, must be eager, watchful, alert, every minute, with steady nerves and in the best physical condition. When I hear of an accident, I ask: 'Who was directly responsible, and was the man working overtime?'"

One night during the Pan-American Exposition, at Buffalo, when the Lackawanna trains were carrying enormous crowds, a trainman was ordered to "go out" with two extra cars that had just been attached to a train. The man demurred.

"The rules forbid overtime," he said, "and I've already put in sixteen hours to-day. If I go on that train, how am I to get the eight hours' rest and recreation out of this twenty-four, as the rules say I must?"

"All right, Jim, I'll have to report you."

Now here was a paradoxical situation, in which to obey a regulation would render the man guilty of insubordination. He chose the wiser course, obeying the "obedience" rule, yet violating what Lackawanna men call "Truesdale's rest-cure rule."

Broken for a Joke.

This was an instance in which the exigencies of the railroad service called for the breaking of one rule in order to comply with a more important one.

When Senator Depew was president of the New York Central, he one day

broke one of the most important of the company's rules by stopping a limited train at a small town scheduled only for locals.

A joke, nothing more nor less, induced Mr. Depew thus to violate his own rules and render to a friend a service which otherwise he would have denied. He received this telegram, dated at an unimportant station near Syracuse:

> Kindly have Empire State Express stop here to take on Mrs. Platt and
> ME TOO.

The request was entirely opposed to the regulations regarding that important train, but at the time the "Me too" joke was rampant. So, chuckling, Mr. Depew issued the necessary order.

"If you had signed that wire just T. C. Platt," he afterward said to the political leader, "I would not have horrified the sticklers for rules in the operating department."

CALMLY RAISED HIS CANE AND STRUCK THE WINDOW-PANE.

There are railroad men who have broken even a dozen rules at a time, in emergencies, and these are the very men who, by thus rising to an occasion demanding heroic measures, proved themselves fit to occupy, and now do occupy, high executive positions in the railway world.

Prince Michael Hilkoff, Russian imperial minister of railways, is one who in half an hour broke half the "Rules for Switchmen" in force on an American railway. Coming to this country as an emigrant and under an assumed name, he secured employment as a station-master on the Philadelphia, Wilmington and Baltimore, now part of the Pennsylvania system.

His station was at a junction. One night when excursion trains in many sections were returning from the ceremonies of an Inauguration Day in Washington, there was a blockade at his junction caused by poor switching arrangements. Excursion-trains, regular passenger-trains, and freight-trains became congested in a seemingly inextricable mass, threatening a delay far into the night.

For months Hilkoff had been studying the switching problem at his station, planning exactly what he would do to relieve just such congestion as now existed. Here, then, was his chance to test his scheme.

Running to the switch-house, he took possession of the machinery despite the protests of the switchmen. He switched and switched for half an hour, issuing commands meantime to enginemen, ordering one train to move here, another there, until by a series of movements of trains backward and forward, he broke the blockade and the trains glided by his station without further hitch.

In the performance of this feat, Hil-

koff broke so many of the rules laid down for switchmen, that next day the division superintendent's reprimand included such epithets as "high-handed," "awful," and "most extraordinary." At the same time he offered Hilkoff promotion to a job as brakeman.

The prince (or whatever nominal colors he was then sailing under) afterward became a conductor on the same road. His work that night is another illustration of the fact that there are occasions on which, rather than follow the rules slavishly, it is better for the service to cast them to the four winds.

To Save Human Life.

Accidents have been averted and lives saved more than once by railroad men who have had the temerity and common sense deliberately to break a rule. A station-agent, who was also switchman and telegraph operator, at Moore's Mills, New York, on the single-track Newburg, Dutchess and Connecticut Railway, received a telegraph order which, translated into understandable English, read:

> Keep track clear for No. 10, loaded freight. Hold No. 8, empty freight, on the siding till No. 10 has passed.

When the switchman, who was also station-agent and telegraph operator, tried to operate the switch that would side-track the coming "empty," it would not budge. The supporting woodwork had rotted, permitting the switching apparatus to sink so that it was jammed.

What was the switchman to do? His testament told him that he must not leave his station when trains were expected, must not forsake his telegraph-key for even a moment, but must stand by ready for any sudden order over the wire. Yet two trains were rushing toward one another and the immovable switch and the rule-book formed a channel which threatened to lead both to certain destruction.

He thought like lightning. How could he save the situation? Why, he could side-track the loaded down freight, instead of the empty up freight, for the switch at the upper end of the siding would work. But this course would be contrary to his own orders and to those carried by the conductors and enginemen of both trains. Moreover, in order to warn the loaded freight of the open switch at one end of a siding that was closed at its other end, he would be obliged to leave his office, thus violating still another ordinance.

Without hesitation he resolved to break the orders both as to trains and station, in the first place by side-tracking the loaded freight, and, secondly, by leaving his post in order to warn the engineman of the closed switch. Seizing a lantern, he rushed to the switch at the upper end of the siding, threw it open, then ran for dear life up the track, sprinting like an athlete on a cinder-path.

When he had covered the quickest mile

THE STUDENTS TOOK DOWN THE FLAPS AND PACKED THEM INTO SUIT-CASES.

of his career, he saw the loaded freight coming, tearing along with all the self-confidence of right of way. Planting himself between the rails, the breathless switchman swung his lantern horizontally in front of his body and across the track, crying thus in railroad-lantern language, "Stop!"

As the train slowed down he climbed aboard the engine, explained the situation in a word to the driver, and hardly had that loaded No. 10 come to a halt safely on the siding, when the empty No. 8 thundered by.

"Absent from your post. What's ailing you?"

These were the words with which the Morse key greeted the perspiring switchman when he returned to his station.

"I'll make my own report to the boss" (division superintendent), "and I reckon I've done a job that means promotion to the main line for little Willie, though I've busted the code. Send section foreman P. D. Q. to repair switch," he clicked back to the train-despatcher.

An engineer of a flyer who brings in his train late (through his own fault), three times in the same week or fortnight, is likely to find himself transferred to another and less important train. So, if you are on a flyer that is behind time, your engineman is feeling more worried than you are.

For a Speed Record.

On the other hand, Rule 92 forbids an engineman to make better time than the schedule calls for. He must not lag, but also he must not rush in ahead of time.

This rule as to keeping speed in conformity with schedule, was broken by an engineman of the Empire State Express, though by only half a minute. The cause was a race with another locomotive.

He was thoroughly conversant with the rules, but when he beheld a lone locomotive running on a parallel track and in the same direction, at Crittenden, twenty-one miles east of Buffalo, and then beheld the lone locomotive getting ahead of his invincible Empire State, and further beheld the engineman of the lone engine waving his hand in a derisive "So long!" it was too much for the Empire State. His pride was quickened, and he gave the throttle a vicious jerk.

Whereupon Empire State cleared the next mile—mile only, of course—in thirty-two seconds, or at the almost unequaled rate of one hundred and twelve miles an hour, a speed not really called for by the schedule.

And at the peril of suspension, or even more severe penalty, for breaking speed rules, the triumphant engineman told of his exploit at his division end. The story was wired to New York, and lo! the next morning's papers teemed with the tale of the record-making mile run. That engineman, by his daring rule-breaking deed, lasting only thirty-two seconds, furnished an excellent advertisement for the road.

A Time to Forget the Rules.

Often a conductor finds it diplomatic to ignore a train rule, especially when such a rule is broken by a passenger. On a New Haven train, a certain prominent actor was returning to his home in New Rochelle. It was a hot night and he raised his window. To his utter astonishment and amusement, the passenger in the seat behind leaned over and slammed it down.

The actor promptly reraised the window, without so much as looking at the enemy, and as promptly the enemy reclosed it with a bang. This time the actor calmly raised his cane and struck the window-pane, shattering it, and proceeded to cane away the remaining jagged pieces of glass around the edges, then quietly resumed the perusal of his newspaper.

The enemy, outwitted by this *coup de main,* changed his seat, as he might have done in the beginning, for the car was only half filled. Under the rules, the actor was guilty of a misdemeanor. He had deliberately "destroyed, defaced, and otherwise marred railroad property," and the conductor saw him do it, for he had been an eye-witness of the whole comedy.

General Rule L requires the conductor to protect the company's property, but that conductor was a diplomat, and knew when to break the rules by ignoring a rule broken by a passenger.

"Just pay the bill when you receeive it," he said to the actor, who was well known to him.

To have arrested the actor would have caused notoriety that would not have redounded to the credit of the road.

Again, velvet sashes, or flaps, containing the berth numbers in aluminum figures, were used, until recently, on the sleeping-cars of a road running into Boston. After the berths were made down, the numbered flaps of velvet were hung over the curtains, where all might see them.

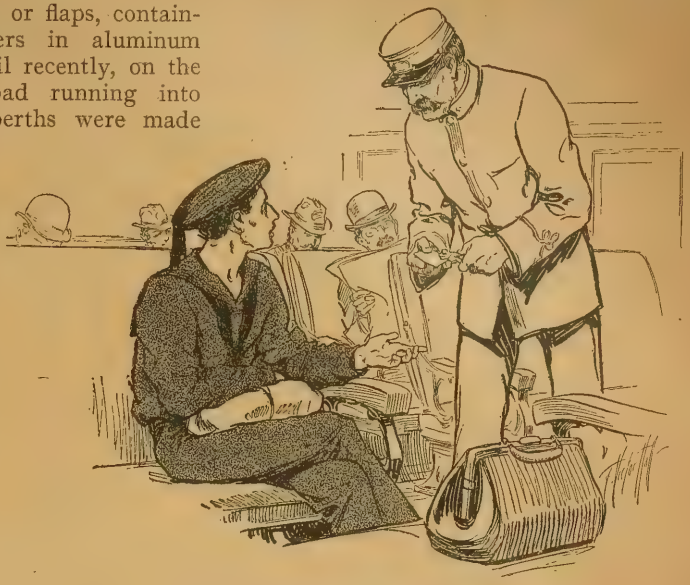
The Yale and Harvard students had a happy thought. The aluminum figures would make very excellent numbers to represent their class year. For example, the numbers 10 and 6, dissected and compounded, served the useful purpose of a badge for class of "'06." Now for a college student to have a happy thought, expecially if it is not on strictly orthodox lines, is to execute it, and, accordingly, the flaps began to disappear with a persistency, regularity, and boldness worthy of a better cause.

One night a few years ago, after a Yale-Harvard football game, Harvard students filled an entire sleeper. Not long after the berths had been made down, the conductor received a shock. The students, under his very eyes, took down the flaps and packed them into sundry suit-cases.

What was the conductor to do? The rules called for arrest of the perpetrators of the wholesale robbery, of which he had been an eye-witness. Should he take into custody forthwith the eighteen students in the car? What a howl of derision, from Harvard men, would henceforth smite the ears of all connected with the road! No, the conductor let the culprits sleep in peace, and in Boston he secured new flaps.

When he sent in his truthful report of the bold filching, including his own shortcoming in not arresting the men—mum was the word at headquarters, not even a demerit mark was charged to that conductor for breaking the rules.

There are instances in which to obey



"I HOPED TO SNEAK THROUGH TO NEW YORK."

a railroad rule would be to break the Golden Rule, and rules have been broken entirely for humanitarian reasons. For instance, a cigarmaker boarded a train at Jacksonville, Florida, made up entirely of Pullmans. He had his railroad ticket, but no money for his Pullman fare, and he was on his way to a new job at Tampa.

Pullman rules and regulations state that the proper cash fare must be collected for seat or berth from each passenger boarding a train without having purchased a ticket for the same. The rule, in this case, was broken, and the poor cigarmaker, who showed a letter from his new employers enjoining him to come with all haste not later than that particular train, was carried to Tampa deadhead.

Again, a private-car, attached to a train from the West, which went no farther than Buffalo, rolled one night into the main station of that city, with the owner aboard. The owner desired earnestly that his car be hitched to a New York express which was about to

leave, but the official to whom this appeal was made, noticed that the private car was not equipped according to rules with the required steam-heat coupler or the one-and-a-half-inch straight port steam-coupler.

"Old-fashioned car," he said to the owner. "Are you in a very special hurry?"

"Hurry? My wife's in that car dangerously ill, on her way to New York for a life-saving operation."

Now that official's rule-book stated that "cars from connections cannot be handled except when fully equipped with the following"—And there followed a list of "special vertical plane couplers, air-train signals," and so on, including the steam-heat apparatus.

Furthermore, the rules read: "During the summer months, however, when notified a sufficient time in advance, the above equipment can be handled regardless of steam-heating."

Well, it was certainly summer-time, but the road had not been "notified a sufficient time in advance" regarding steam-heating. Special orders from officials higher up ought to be obtained before passing that private car. To get such special orders would take several hours, as it was the time of night when higher officials were comfortable between sheets.

With these conditions on his mind, combined with thoughts of that invalid wife and the imperatively needed operation, the embarrassed official cried: "Here, you fellows, hitch that private to No. 7!"

And now here is one more instance of rule-breaking for the sake of the common brotherhood.

A sailor, in the uniform of the United States navy, boarded a train at Philadelphia, and handed the conductor a ticket to Trenton. Trenton was passed and still the sailor was aboard. The conductor approached him and said severely:

"You had a short ticket. That's an old dodge. You'll have to pay cash fare from Trenton to New York, if that's where you're going."

"Look here, shipmate," replied the jackie, "I had only money enough to make Trenton, but I hoped to sneak through to New York. My leave's up and I've got to join my ship at Brooklyn Navy Yard by twelve to-night. Say, shipmate, give us a lift."

Contrary to the "railroad man's testament," he got the "lift."

FAMOUS FLYING SCOTCHMAN.

ONE of the most famous trains in the world is the Flying Scotchman, the English Great Northern train that makes a daily run from London to Edinburgh. We have collected the following remarkable statistics about it:

This aristocratic flier has been running between London and Edinburgh, a distance of approximately four hundred miles, for nearly sixty years without an accident. In other words, it has left King's Cross Station daily at ten o'clock with unfailing regularity for fifty-seven years, the only changes being in arrival at Edinburgh, and these changes being caused by constant improvements in the schedule.

In 1852 the distance was four hundred and two miles, and the running time eleven hours. In 1863 this was reduced to ten hours and a half; in 1872 to nine hours and a half. In 1876 it was again reduced to nine hours, in 1888 to eight hours and a half, and in 1901, the distance being shortened to three hundred and ninety-three miles, to eight hours and a quarter. This is going some!

The same engine that makes this run hauls the return night train to London in six hours and nineteen minutes. These reductions in time have been the results of exciting races and keen competition. The fastest time ever made by the Scotchman was seven hours and twenty-six minutes, the result of a series of races beginning August 13, 1888.

On that day she made the run in seven and three-quarter hours, an average of fifty-three miles an hour. The next day she did it in seven hours thirty-two minutes, and on the 31st she made the run in seven hours and twenty-six minutes, an average of fifty-five and a half miles an hour. On this run she covered four consecutive miles at seventy-six miles an hour.

Another distinction of the Flying Scotchman is that until 1872 she was not compelled to carry third-class passengers, being the only Great Northern train thus favored.

FREEZING TO DEATH!

BY WILLIAM IVORY IRVINE.

How Jennings Held the Fort in a Blizzard, and How the Chief Despatcher Held Jennings.

FOR fourteen hours the storm had blown the white flakes against the little station at Wimmer Summitt until nothing else could be seen but the little weather-worn red building.

Jennings, the relief operator, opened the door and looked vainly for a break in the heavy clouds, but nothing could be seen but the snow. His relief was now two hours overdue and the chances for his arrival were very slim.

Cursing the weather, he slammed the door and walked to the little stove which was making a brave effort to warm the bare interior. It was pretty hard lines to be stuck in such a hole all right, he mused, pulling the chair up to the stove, but tough lines were the rule of the relief operators on the Erie and Wyoming Valley Railroad.

Wimmer Summitt was known as the hole of the little coal road which climbed one side of Eagle Top Mountain and went down the other. No one ever called there, and it was the only thing that ever had been built on the top of the mountain with the exception of the tracks. It was nothing but a shanty, used as a reporting station, and the only people the agent ever saw were the train crews.

It takes more than a snow-storm and a dreary station to dampen the spirits of a nineteen-year-old telegrapher, surcharged with the desire to make his mark on the line, and, after piling more coal on the stove, Jennings ate part of the lunch he had left from his noonday meal and busied himself with the time schedule.

The latter proved to be very complicated, owing to delays caused by huge snow-banks on the tracks, and it was long after midnight when he had finished.

The stove had long since forsaken its warmth and it was some time before Jennings stirred himself and built a new fire.

The solemnity of the atmosphere was disturbed only by the continuous click of the telegraph machine. At dawn Jennings arose from his desk, stiff and sore from his long sitting, and looked out of the window.

The snow was falling just as steadily, and showed no signs of abating. The wind had increased in velocity and the drifts were plainly visible on the top of the track. The agent was fairly chilled as he looked on these banks and thought of the chances for his relief to surmount that mountain.

There was not an engine on the road which was capable of pushing up that high grade through those drifts. If an engine could not get up, he would have to stay there until the storm ceased, and, from the way the wind was now blowing, it looked as though he would be held there until the end of the storm.

The supplies for living were slim. He had nothing eatable except a remnant of yesterday's meal, a small box of biscuits, and two cans of sardines left him by Mason, the regular operator.

He was nearly famished and would have to use the best part of his meager eatables to satisfy the pangs of present hunger. For the first time he realized the seriousness of his position, and drawing a jack-knife from his pocket he reluctantly opened one of the cans.

Should he eat this now, or should he save it? Hunger cried, "Now," but reason called him to look to the future.

Jennings halted in the midst of his undertaking and proceeded to reason the situation as it appealed to his innermost thought. Yes, he would have to divide these morsels of food into at least six meals.

Could he do it? For a long while he stood with a half-opened can clutched tightly in his hand, the sharp edges of the metal cutting his skin. Then, as if his mind had grasped the situation, he slowly wiped the knife on his trousers leg and dropped it into his pocket.

His resolution had no more than been formed when the little instrument on the desk started to sputter his call:

"Ws — Ws — Ws — Co. Ws — Ws — Ws—Co."

The operator dropped into his chair, opened the lever, and gave the signal to go ahead.

"This is Nather," the sounder clicked under the chief train despatcher's steady sending. "I can't get a relief up before to-night; we are all tied up. Can you hold on?"

"If you can't get one up before to-night, I guess I'll have to," clicked back Jennings. "I'm short on meals and will have to come up pretty close if I am going to see it through," he added.

"Do the best you can and keep a stiff grip on things and keep awake. If you go to sleep in that shanty, you will freeze to death before night. Will call you later and let you know how things are coming along," answered Nather.

YES, THERE WAS THE LAMP.

The sounder was silent. Now he would have to stretch his supplies as he had expected. There was no other way.

He heated a can of water, and with a couple of biscuits and part of the sardines he made his breakfast. For the first time he began to feel sleepy, and calling to Glenside, he asked the agent to answer his call if he was wanted. Putting on his overcoat he opened the door and stepped out in the snow.

The first blast of the northeaster knocked all thoughts of sleep out of him and he started down the track to fill the signal-lamp at the switch a quarter of a mile away. His

HE LIFTED THE LID OF THE BIN AND—THERE WAS NO COAL!

progress was slow. The snow blew steadily into his face, making it difficult to catch his breath.

The walking was bad, and by the time he had reached the lamp he was well-nigh exhausted from his exertions. Jennings wished for the station and its little stove as he struggled with the wind to fill the lamp.

His task finished, he started on the return journey. It seemed now as if the distance was longer than the down trip. His feet felt heavy and his steps lost their long stride and now dragged. Twice he stumbled over a hidden tie, but he kept his feet, and, after what seemed hours, he threw open the door of the station and stumbled in. The little station was glowing with friendly warmth and he was glad to pull off his wet coat and gloves and sit down in front of the fire.

If he could only take a little nap, how much better he would feel. But no; sleep was out of the question. Wasn't that what Nather had told him not to do? No, he would not sleep. Angry with the thought that he would sleep on the job, Jennings walked across the room and dropped heavily into his chair and called Glenside to send his car reports.

Routine work kept him busy until evening and then he started to eat his meager supper. Oh, but he was hungry. Hadn't he gone without his dinner, just to have a good supper?

He would have a half decent meal and then he would go and light the signal-lamp. The cracker did not taste hard now, and sardines never had such a flavor before. He would like to eat more, but that was impossible; he must save some.

Suppose Nather could not get his relief up? But what was the use of looking at it that way? Nather would do his best, that was something. The chief despatcher liked him and would not forget him, high up on top of the wind-swept mountain, snowed in and short of food.

He would go and fix the lamp now; wouldn't like Nather to think that he had forgotten to do his duty, he thought, as he put the last cracker that he had allowed himself into the hot water. But

it was terrible outside; he could hear the wind blowing, causing the wires to vibrate as he wrapped a paper around his remaining biscuits. He picked up the oil-can and swung it over his arm, his mind made up, opened the door and stepped outside.

The snow was not falling so much, he thought, as he walked down the icy ties, but the wind was blowing hard; yes, harder than before. He must be getting near the place, he was sure he had walked the required distance. Yes, there was the lamp.

Slowly and painfully he unscrewed the lamp. It was full. He gave a feeble laugh as he remembered that he had taken care of it in the morning. There hadn't been any use in his carrying the oil-can all the way down. He would leave it there.

Using his body as a shield against the wind, he lit the lamp. He felt better now since he had fixed the lamp, he would not have to bother with it again for a long while, but he must get back to the station. He remembered that the coal-box was empty, and that he would have to fill it from the bin at the back of the station.

The thought of the warm stove stirred his footsteps and he started on his return. He would go back and fill the stove with coal, and in case the train did not get through he would ask to be relieved from watching and he would go to sleep.

Jennings succeeded in getting back, and, without taking off his coat, picked up the coal-buckets and started for the coal-bin. At least he would have a good fire until it was time for the train.

He lifted the lid of the bin and—*there was no coal!* The lid fell from his hand with a crash which was lost in the roar of the wind. Something must be wrong with his eyes.

Orders were orders, and they were long-standing ones with the E. and W. V. that all bins, at all times, be kept full. Could the man on day duty have forgotten to order coal? It did not seem possible, but there was no coal in the bin.

For a long while Jennings stood as one dazed, unmindful of the wind which was howling and echoing down the long corridors of darkness. His one hope had gone.

Mechanically he picked up the buckets and walked back to the station. At the door he stopped and gazed down the track. Below, he could see the little signal-light throwing its ray into the darkness. He laughed now as he thought of his earlier struggles.

The stove was still giving a most delightful warmth. He would at least get the benefit of it. But first he was going to tell Nather a thing or two. Throwing his coat and gloves on the little bench running around the wall, he walked quickly to his desk where the little piece of metal was clicking. Sleep was forgotten now in his newly aroused anger, and, pulling back the lever, he silenced the instrument.

"Co—Co—Co—Ws," he ticked.

After a short delay the "Ws here," sounded.

"Is Nather there?" Jennings clicked, dropping into his chair.

"Wait a minute," the instrument answered.

"Never can get anything or anybody when you want them," Jennings muttered, as he waited impatiently.

"What do you want?" sounded the ticker.

Jennings recognized Nather's sending and throwing open the lever, asked:

"What is the matter with you people? Here I am storm-stuck in this God-forsaken hole without a pound of coal."

"What?"

Nather's question came over the wire with such a rush that Jennings could almost see the man shouting at him. One could always recognize the personality of the man when Nather got on the wire.

"There is not a pound of coal here," Jennings repeated, "and my fire won't last more than a half-hour."

"Why, I thought there was enough coal to last forty-eight hours longer," Nather was now sending like he talked when excited. The words came piling in on top of each other with barely a pause between them. The wire fairly burned with his indignation.

"Did that fool let his supply run down like that?" he asked, and then

waited a moment as though to explain his position and then started to telegraph rapidly:

"He ought to be tarred and feathered. We received his order just before you took charge and supposed that he had some left and were sending some up in regular order."

As Jennings listened to the explanation, his anger cooled and he thought with pity what would happen to Mason. Nather was a strict disciplinarian, and when his orders were broken his answer was an order to call at the office and get your time.

It was too bad that Mason would lose his job. He was a good fellow, not much older than himself and had a fine woman and kid.

What would he do for a job? He was not strong enough to go into the mines. The line was the only thing that he could do. These thoughts passed through his mind, and quickly opening the line he answered:

"Look here, sir. Don't blame the poor fellow. He is up to his neck in trouble, and of course he didn't know that this confounded blizzard was going to set in. He knew that if his coal did not hold out he could get enough from the trains to last until it did come."

"We will have to take up his case later," Nather answered. "The thing that has got me going is that you have not got any coal. But don't worry," he added, "the snow has stopped and we are sending a plow up on both sides and they ought to reach you before the night is over. Have you taken care of the light?"

"Yes," answered Jennings.

"Well, for God's sake, don't go to sleep."

The sounder stopped. Jennings felt better now. Nather's assurance that relief would soon be there cheered him, and with a more hopeful view of the situation, he arose from his chair and walked over to the stove and threw open the door.

How much longer would it hold out? Fifteen minutes, maybe half an hour; no more! It was impossible to think longer than that short thirty minutes. The fire seemed to understand that it could not live much longer and was putting up a brave show, but around the edges the dead ashes were already showing, and to Jennings's mind, the struggle to keep itself alive reminded him of a dying man who understood just how much longer he would exist.

The little red flames seemed to call to him to help them out, but how could he? The bin was empty. He felt that it was impossible to look at the struggle and not do something.

The flames, to him, were not the offspring of a heap of coals; they were human beings like himself, trying to keep awake when it was impossible. Nather's advice was forgotten. He would sit down and go to sleep with the flames.

Yes, that would be better. He wanted sleep. Why shouldn't he? It was too much to ask a man to stay awake as long as he had; the train would not get up for hours yet. He would be awake to meet them and then he could get more coal and start new life in the fire. But, how was he going to keep it alive until the train came? Maybe he could find some wood.

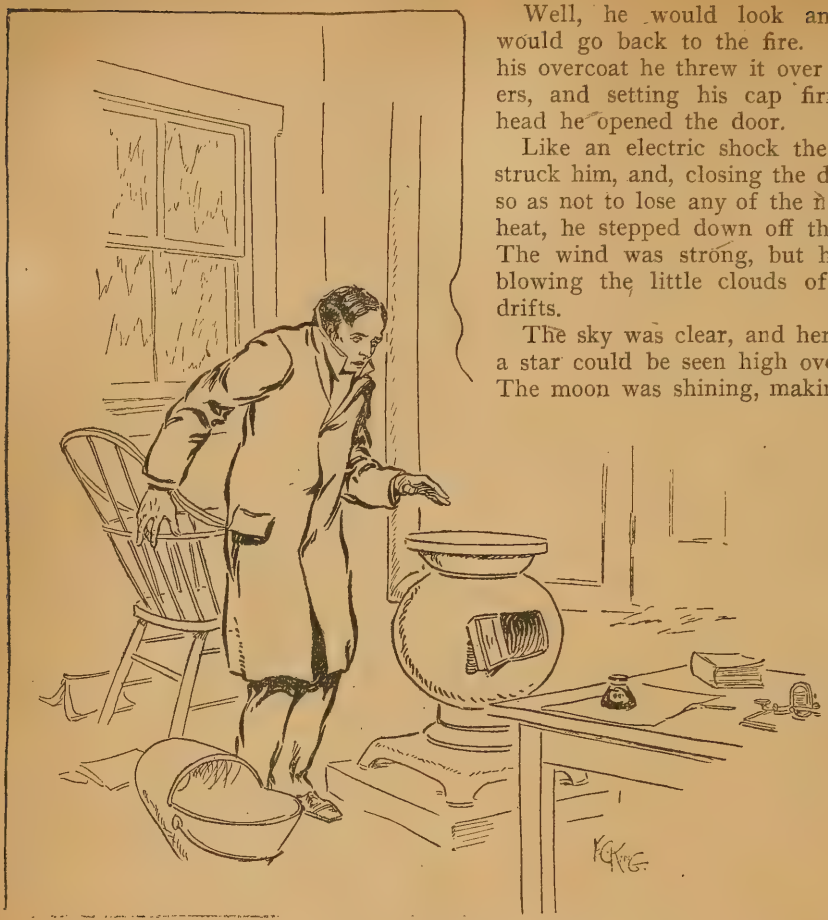
Jennings aroused himself with a start and looked around the room. He must have been dozing. He did not remember sitting down. The fire was giving up the fight and nothing remained but the little red spot in the center, just like the heart of a man, the last thing to give up. His eyes wandered around the room until they stopped before the little coal-box. Why hadn't he used that before? That would help the fire.

It was the work of but a few minutes to reduce this to kindling and place it on the fire. Like the patient who is nearly dead when oxygen is applied, the fire started to crack softly and in a few minutes it was burning cheerily, feeding itself on the wood as though afraid it would be taken away before it could finish. Jennings watched the red flames shooting in and out of the kindling and then slowly sat down.

"Ws—Ws—Ws—Co. Ws—Ws—Ws—Co."

Again and again the telegraph instrument gave the call, each time more insistent.

Jennings raised his head with a start and listened. The call was repeated.



THE STOVE WAS LIKE A PIECE OF ICE.

Yes, somebody at Colesdale wanted to speak with him.

Why didn't they let him alone, he mumbled sleepily, rising and slowly crossing the room. Pushing back the lever he stopped the call, and when the line was closed at the other end he sent his O. K. After a short space the sounder started to work.

"Go out and see if that signal-lamp is lit," it said. "This is Nather, and I have a plow coming up on both sides. You flag 87 up from Glenside and hold it until 29 gets there and then call for orders."

Jennings repeated the order and then sent his O. K. and closed the wire.

"Certainly the light is set red," he muttered, entering the order in the book. "Why should Nather want to chase me out in the cold?"

Well, he would look and then he would go back to the fire. Picking up his overcoat he threw it over his shoulders, and setting his cap firmly on his head he opened the door.

Like an electric shock the cold wind struck him, and, closing the door quickly so as not to lose any of the now precious heat, he stepped down off the platform. The wind was strong, but had stopped blowing the little clouds of snow into drifts.

The sky was clear, and here and there a star could be seen high over his head. The moon was shining, making it nearly as light as day. He could see the lamp, which looked like a ruby lying on a cloth of white, shining brightly, down the tracks. Now that he had obeyed Nather's order, there was little use in standing in the cold, 29 or 87 would not be up for an hour anyway, and he would go back and take care of the fire.

It felt good to be inside again, he thought, closing the door. He could take a rest now without disobedience. After placing more wood on the fire he dropped into the chair with the overcoat still around his shoulders.

His eyes closed and he pushed his legs out, one on either side of the stove. Oh, but it felt good to close his eyes and stretch out after his long days and night.

Nothing could be heard in the room but the soft cracking of the fire. Slowly, Jennings's head began to nod, his shoul-

ders hunched and he was rapidly losing all thoughts of his surroundings.

Then the sounder of the telegraph on the desk began to work. It kept sending the same, "Ws—Ws—Co—Ws—Co." Colesdale wanted Wimmer Summitt. Again and again he sent the call, each time more sharply.

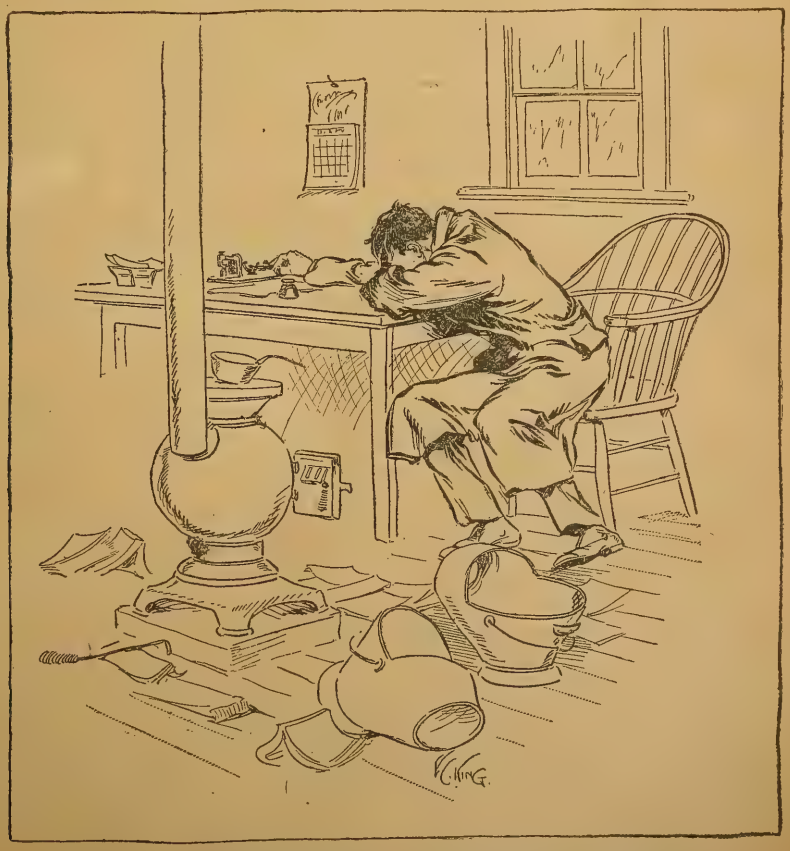
The operator lifted his head with a start. That sounded like his call. For a full minute, as though his tired brain refused to work, he listened, his head to one side as if to hear better. The dots and dashes were clearer now; they no longer crowded one another and he could plainly hear now, "Ws—Ws—Co." Yes, that was Ws, and Colesdale was calling.

The telegrapher's instinct pulled him to his feet and, like one blind, he placed his arms out and walked slowly to his desk? Why didn't they wait a minute? He heard them. There was no use breaking their arms sending his call. Hadn't he always answered when he was called? Some people made him tired; they were always in a rush when there wasn't any cause. These thoughts filled his head as he dropped into his chair, leaned over the desk and opened the lever and, slowly, as if to impress his caller that he was taking care of his work, he sent:

"Ws—O. K.—Co."

"Nather on the wire," the instrument ticked. "Go out and see if that light is all right. I don't want any smash-up."

"All right," Jennings answered and closed the key. What the deuce was the matter with Nather to ask him to go out again. He had never before repeated an order, why should he now? It must be that he was worried with the work of getting the road open. His feet felt like lead as he dragged them slowly to the door and opened it.



HE HAD ALREADY FORGOTTEN WHAT HAD BEEN SAID AGAINST HIM.

"Of course the light is lit," he said aloud, speaking to the air. "I can see it plainly. All rot, this going outside. I won't go again. There was enough oil in the lamp to last until morning; I saw to that when I lit it."

Jennings stepped inside and closed the door and then walked to the stove. It had burned all the wood and once more was going out. What could he feed it with just to keep it alive for a few minutes? He looked around the room, but excepting the table which held the instruments and the books, there was nothing in the room but the two chairs.

His eyes traveled slowly over the table, but there was nothing to burn but the books. No, he could not use them, but he could use the cardboard backs. They would burn just like wood and throw out a good heat.

Filled with this new thought he tore the backs off, and after tearing them in halves, threw them on the fire and closed the door. Almost immediately the fire burst into flames and threw out a terrific heat. From his chair, Jennings could see the flames through the cracks roaring up the chimney. He watched them, fascinated.

Now the flames did not show so much and the roar ceased. He watched the fire die almost as quickly as it had started, and, throwing open the little door, he watched the remaining pieces of glowing cardboard curl up and then fall back, white and dead.

It was all over now. There was no red glow to keep him company. His last friend had left him, and all that remained was a few whitened ashes.

He looked around the room. It was beginning to lose its look of warmth already. In the corners he could see the cracks here and there which had been opened by the wind and weather. Already the wind which had fought so long to get in was whistling through, and it seemed to the agent that it was trying to call his attention to its victory after the long fight.

With a shudder, Jennings took his overcoat from his shoulders, where it had been hanging loosely, and put it on, buttoning it tightly from the neck down. Then he sat down in front of the stove so at to get what little heat remained. It had been a long fight for him, but it was ended now. If he could go to sleep he would not feel so cold.

"Ws—Ws—Ws—Co."

Again and again the call rang out through the room. Jennings turned his head and watched the little brass hammer as it pounded out the call. What was wanted now? It surely could not be Nather again; he would be too busy to call him.

Some fool at Colesdale who would ask him something which they could find out if they'd look at the books! No, he would not pay any attention to it. Let them think that he was outside looking after that lamp.

The sounder was working furiously. It seemed to him like a man who spoke and did not get an answer, and then called louder each time. It also seemed as though somebody was shouting into his ears.

The walls called; even the wind coming through the cracks stopped and listened and then started to call to him to answer. He moved his already stiff body and turned his back to the table.

Let them keep on calling; they would get tired after awhile and would stop. But, what would happen then? He would get his time. He didn't care. He hoped that he would never see the inside of a signal-station again.

He had had enough. He was big enough now to go into the mines. It was never cold there, and there was always somebody near, even if it was only one of the little blind mine mules. There would not be any fiendish pieces of brass calling him every few minutes like it was doing now. Why didn't they stop? He would make them, and he would tell that operator a thing or two.

Gathering his numbed legs, he stood up. God, but it was cold! He dropped his hand on the top of the stove and quickly pulled it away. The stove was like a piece of ice!

He leaned against the chair and sleepily looked at the telegraph. It seemed bigger now. The sounding bar was almost as big as his arm and was going up and down like a connecting-rod of an engine, tireless, always doing its work when the power was put on.

Its ceaseless movement fascinated him,

I GUESS 87 DID NOT GET YOU ANY TOO SOON."

he could not watch it any longer. He must stop it or it would send him mad.

The noise was terrific. With a hoarse cry he stumbled across the room and fell into the chair. His right hand dragged slowly out of his pocket until it rested on the black-headed lever and threw it open.

Instantly the pounding stopped. His fingers slowly moved over to the key and rested there, stiff and cold. How long they lay there he did not know, and then, like a beginner, he started to work them slowly and awkwardly and spelled:

"Ws—O. K.," and after a long pause, "Co."

Slowly his fingers left the key and moved over to the table until they rested on the lever and closed it. The key was hardly closed when the sounder started.

"Where have you been? A train could go to Hades before you would answer," it said. "Go out and see if that signal is set all right to flag 87."

"I have just been out," Jennings answered slowly. "It is all right."

"But I want you to go out again," Nather replied.

After a long wait and not receiving any answer he called:

"Go ahead, Charlie. I am all upset to-night and I am afraid something might happen. I will wait at the wire."

Jennings raised himself from his cramped position and, with a shudder, walked to the door and looked out. Yes, it was set all right. Now he would tell Nather and he would not go out again.

He closed the door and looked at the station clock. It was stopped. It must be getting toward morning. What was the matter with his arms and legs?

Thousands of pins and needles seemed to be stuck in them, which hurt him every time he took a step. What was the cause of all those sharp pains? It was with difficulty that he reached his chair and opened the lever.

"It's all right. Is the train coming up?" he telegraphed, and after a few minutes, looking at the silent sounder, he sent:

"I'm cold and tired; I don't feel hungry now."

The key was closed and then Nather started, quickly, to inspire confidence:

"Yes, it will get there soon. Keep your nerve and your relief will be there before you know it."

Jennings heard but faintly, his face was buried in his arms, which were lying on the table. His cap had fallen off and rolled to the floor, forgotten. It was impossible to keep awake longer, but why was Nather calling him again? He had fixed the light. What was he saying? He lifted his head slightly and peered forward. His eyes, heavy with sleep, refused to fully obey him and would only open part way.

"Jennings, Jennings, for God's sake, answer me," the instrument was ticking. Yes, he could hear now, but why was it so far away? Now, what was it saying?

"You dead, or are you too darned lazy to answer me—sneak—trying to throw me down when I'm up to my neck in work. Well—"

As if shot, Jennings sat up and opened the key. The line was barely closed when he started to operate. He did not feel so stiff that he could not defend himself, and he threw his words over the wire, hot and direct.

"You're a nice one to call me a sneak, ain't you? Lazy, am I? Trying to throw you down, am I? Well, when I meet you, I'll show you. It's all right for you, in a warm place, to keep asking a man to go outside and look after a light and a train that never comes.

"I was told that you would do me if you ever had a chance, and did not believe it. I knocked the man down who told me. But he was right. You have no more feeling than a dog.

"Don't open that lever. You listen till I'm finished, and it won't be long. You've kept me up here for God knows how long—I've forgotten—and then tormented me by asking me to go outside. I won't go!"

He closed the key and fell back exhausted from his exertions. Nather was good and mad now, he could tell from the way he was sending. It was no longer the even steady roll that he generally sent. The dots and dashes were hardly distinguishable and the words seemed to be running together. The sending was of a man excited, angry. What was he saying now? Jennings listened.

"Talk to me like that, you cub; well, I'll show you. I'll get rid of you so fast that you'll wish you had never seen the E. and W. V. I wouldn't have a man like you on the road, you young bully."

Jennings nodded his head as though agreeing with him. He had already forgotten what had been said against him. His head fell into his arms. He was too tired to bother now. Just let the C. D. wait until he had some sleep and wasn't so cold. He could catch a word of abuse now and then from the many that came over the wire, but the rest was a continuous flow of dots and dashes, dying away until he heard nothing.

With a start he sat up and looked around. Everything was changed. He was no longer in that little shanty of a station at Wimmer Summitt. It was a bedroom. He looked down and saw he was in bed. How did he get there? Unable to understand, he dropped back on the pillows and closed his eyes.

For a long while he lay there, trying to remember. Then he heard a door open quietly and some one step into the room and close the door.

He looked up. Nather stood there.

"Hallo, Charlie!" he said, and sat down on the bed. "Feel better?"

Jennings could not answer and for a long while he looked into the train despatcher's smiling face. Nather said:

"You've had a pretty rough shift, my boy, and I guess 87 did not get you any too soon. But you'll soon be all right, and can go to a station of your own now. You've won your spurs and I hope you'll forgive me for those names I called you. Won't you?

"I had to keep you awake until 87 could get you; there was no other train coming up and the light was not necessary; that was to keep you on your feet, and when I found that the light would not hold you, I called you things which I knew you were man enough to resent. Forget the names, old man, won't you?"

Jennings raised himself on his elbow and looking into Nather's face, asked:

"How 'bout my time; did you mean that?"

Nather shook his head and then Jennings held out his hand.

"You're white!" he said.

Perpetual Motion—the Greatest of Delusions.

BY E. L. BACON.

THE path of fantastic theories has never been the path by which humanity has advanced. Neither the search for the formula of the transmutation of minerals, for the elixir of life, nor for the fountain of youth, ever brought to mankind one useful invention or opened one closed door of science. Nature sets herself eternally against the theory of something for nothing. Of all the royal roads to wealth and ease, the one that has survived longest, because of its seeming possibility to the unanalytical mind, is the theory of perpetual motion. In this article is presented a view of some of the absurdities of the theory, and some of the pathetic tragedies it has led men into.

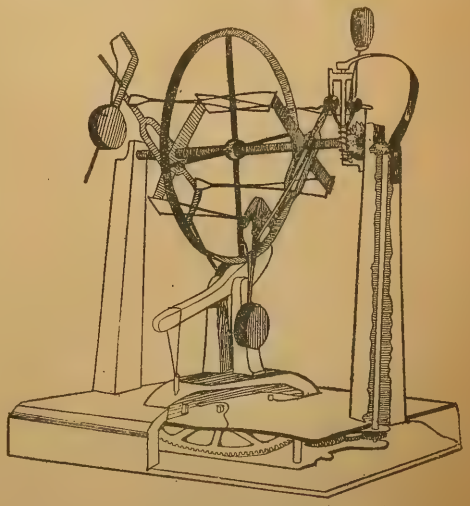
No. 1.—The Multitudinous Attempts of a Theory To Upset a Law, and Some of the Tragic Consequences That Have Accompanied Them.

SOLVING the problem of perpetual motion was a simple matter, said an architect in Paris, and he drew a rough sketch of a wheel that would be continuously overbalanced. Seven arms, weighted at the ends, were fastened to the circumference at equal distances apart in such a way that on the descending side they would fall outward on their hooks or hinges until they pointed to the center of the wheel. On the ascending side the weights, hanging loose, would lie against the rim.

It would be plain to anybody, said the architect, that that must insure perpetual motion, because the weights on one side would be farther from the center than on the other. The wheel would have to keep on revolving until it wore out.

That was seven hundred years ago. If the wheel of Wilars de Honecort, the architect, had been capable of doing what he said it would, the industrial world would likely enough be centuries in advance of where it is to-day. Trains, ships, and factories would run without coal.

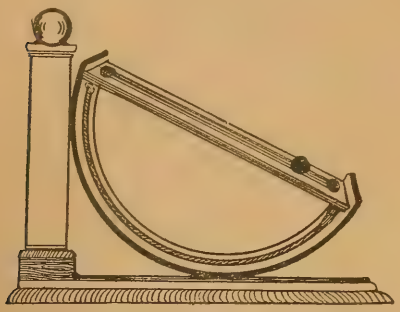
The supply of power would be inexhaustible. It would not take much im-



J. M. ALDRICH'S MACHINE—SHOWING CONCEALED CLOCKWORK.

agination to get at least a glimmering of what stupendous results such a condition might bring about. And, considering this Utopian state of affairs has not come to pass, it should be easy to infer that De Honecort's machine did not work.

But the overbalancing wheel that doesn't overbalance has been responsible for a



ONE OF BISHOP WILKINS'S INVENTIONS.

good deal of human history during the seven centuries that have come and gone since the Paris architect applied his medieval mind to the problem of making energy self-creative. Many a tragedy it has caused; many a life it has wrecked.

Ruin, suicide, insanity are linked with that fascinating, unsolvable riddle of the wheel. No other glittering delusion was ever so disastrous, ever had so many victims, or has been followed so long and so tenaciously.

Ages ago men gave up the search for the Fountain of Youth. Nobody devotes his life, like the old-time alchemists, seeking a way of making gold. Nobody attempts to square the circle. But thousands of men are victims even to-day of the riddle of the wheel.

The First Blow.

One hundred and thirty-five years have passed since the French Academy declared that perpetual motion by means of mechanical arrangement was impossible, and the same declaration has become an axiom in physics. But has the delusion been destroyed? Last year fifty perpetual-motion inventors, most of them with drawings or models of overbalancing wheels, sought the services of one patent agency in New York.

In 1888 John Gamgee, with a plan for getting perpetual motion by means of a machine to be run by inexhaustible ammonia gas, convinced the chief engineer of the United States navy that he had solved the problem, and that the country's war-ships would soon be running without coal. In 1898 the death of John Worrell Keely closed the career of a man who, posing for twenty-five years as the discoverer of a new force that would insure perpetual motion, induced capitalists to subscribe hundreds of thousands of dollars to back his project.

In 1899 C. E. Tripler, organizer of the Tripler Liquid Air Company, with ten million dollars capital and two thousand stockholders, was hailed as having solved the problem of perpetual motion with his liquid-air machine. During the twelve years that Keely has been lying in his grave the New York newspapers have reported the suicides of eighteen American mechanics who killed themselves because after years of experimenting they had failed to solve this riddle of the ages.

The Wheel of Death.

Fifteen of these suicides were caused by failure to make an overbalancing wheel—the thing that Wilars de Honecort declared, seven hundred years ago, was a simple matter. It seems hard to believe that this wheel of disaster still holds such an all-absorbing charm over so many minds.

There is something uncanny about it—such a long story of failure, yet year after year always new victims. But any one with a mechanical turn of mind has only to read very little about the attempts that have been made to make a wheel revolve continuously by the overbalancing of its own weight before he feels the fascination of experiments in this line.

At first it seems such an easy thing to do, just as Wilars de Honecort thought. And when one mechanical arrangement fails another is sure to suggest itself, and another and another. And it always seems as if just a little more effort would surely bring success. And very soon it becomes easy to understand how so many men have wasted their lives going on and on from one contrivance to another.

You begin to realize how a man might

follow this delusion through a long lifetime, always sure he was near the goal—such a man as Isaac Perry, of Jeffersonville, Indiana, who worked every day on his perpetual-motion machine for seventy years, until, when long past ninety, death came to him a few years ago just after he had announced that another week would have seen his dream a reality.

The Patience of Hart.

Not quite half a century ago there died at Wallace River, Nova Scotia, a man who had labored almost as long over the unsolvable problem. He was John Hart, who when a young man was a good deal of a hero among his neighbors. They considered him a great genius.

Farmers came from miles around to see his overbalancing wheel, which didn't quite go, but would some day. And when that day came John Hart and Wallace River would be known the world over.

It looked to everybody as if just a few more improvements would send the wheel spinning forever. The years dragged on. There were still a few more improvements to be made. Another week, said John Hart, another month perhaps, and the wheel would go. Still the years went by. John Hart was growing old. "A little while longer," he said, "and I'll have it."

He was never discouraged. He was beginning to grow feeble with old age, but day after day he hammered away on the wheel of his workshop. Men who half a century before had come to inspect the contrivance brought their grandchildren around to show them the wonderful thing that might some time revolve of its own accord.

He lived to be ninety years old. "If I could only live a little longer," he said on his death-bed. The wheel was almost perfected.

His death was a great loss to the world, so some of his neighbors thought, and on the summit of one of the highest peaks of the Cobequid Mountains they buried him as impressively as if his dream had been realized.

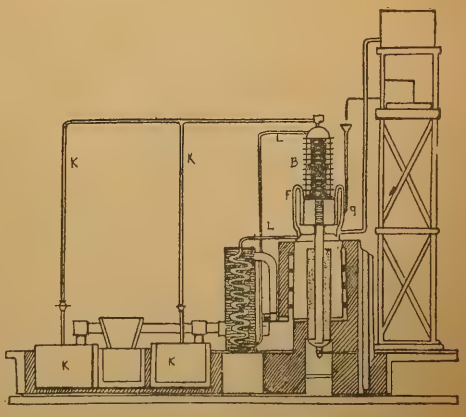
The lure of the overbalancing wheel for such men as these lies in the fact that the barrier between failure and success seems so trifling. The wheel always almost goes.

Study a drawing of any of the simpler forms of this wheel, and you will perhaps even wonder for the moment why it does not go. The weights at the ends of the hinged arms are farther from the center on the descending side than they are on the other. So why does it not overbalance and keep on overbalancing indefinitely?

If you are a close observer you will soon detect the difficulty. Draw a vertical line through the wheel, bisecting the center, and you will see that although the weights are farther from the center on the descending side, there are more weights on the ascending side — just enough more weight, in fact, to make up for the advantage in position of the weights on the other side.

In 1770 James Ferguson, a distinguished astronomer, tried to get around this difficulty by reenforcing the weighted arms with sliding weights, which were to control one another through a system of cords and pulleys. In his wheel were eight spokes, each one jointed not far from the end, and on the end a heavy ball. Just before reaching the joint on each spoke a rectangular frame was fastened, and inside the frame a sliding weight. From this weight ran a cord over little pulleys to the jointed arm of the spoke next but one behind it.

For example: If the spokes were numbered, the sliding weight on number one would connect by cord with the hinged arm of number three. The weight on



JOHN GAMGEE'S AMMONIA GAS WONDER.

number three would connect with the hinged arm of number five, and so on.

When spoke number one comes to a horizontal position on the descending side of the wheel, the weight in its frame falls down and pulls the hinged arm of the then vertical spoke number three straight out. The weights on descending and ascending sides are then equal, and it looks for a moment as if the great problem were solved.

Failure's Impassable Line.

But the wheel does not turn. It is still an exact balance. Draw a horizontal line through it, bisecting the center, and the reason becomes clear. There are more weights below the line than above it. One difficulty has been overcome only to stumble into another just as great.

When the idea of an overbalancing wheel got into the head of Captain Adderley Sleigh, of London, he tried to solve the problem with water-tight compartments attached to the periphery of a wheel and connected with one another by an elaborate arrangement of tubes, through which water was to run from the compartments on one side to those on the other.

Of course, the compartments on the descending side were to be filled with water and those on the ascending side were to be empty. Consequently, reasoned Captain Sleigh, the wheel must necessarily revolve. It was such a complicated arrangement that it took people a long, long time to get even a glimmering of an idea of how it was supposed to work.

The captain got a British patent on it. That was in 1865, and for four years afterward the captain tried to discover why the thing wouldn't revolve.

He wanted to start a company. He had his patent, and could go right ahead if the wheel would only work, but there was some little difficulty in the way.

Not a whit discouraged, he invented another wheel of much the same sort, and patented that, too. Again he was on the verge of fame and fortune, and the stock in the company was all ready to be sold, but again the wheel failed.

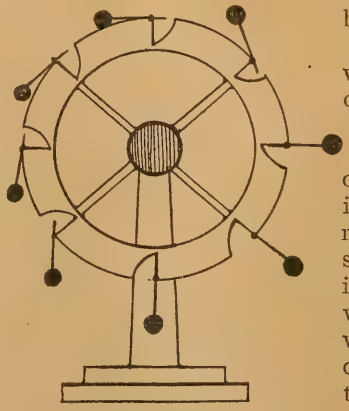
It simply wouldn't go. It was just a case of hard luck in encountering some entirely unforeseen obstacle, said the captain, and he went to work on another.

Long before the captain was heard of, a wheel with balls sliding in grooves, which ran in curves from center to circumference, was a popular means of trying to solve the perpetual motion problem. But there was the same difficulty with this contrivance as with the wheel with hinged arms.

While, on the descending side the balls were lying against the circumference, there were enough more balls lying in the grooves on the ascending side to counteract the advantage of position.

Exit the Captain.

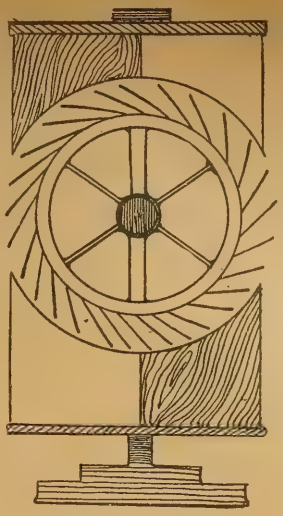
Then, to get away from the overbalancing wheel, there was the attempt to use magnetism. A lodestone at the top of a pillar was to attract a ball up an inclined plane. At the top of the plane the ball was to drop through a hole to the bottom, then, with the momentum obtained from gravitation, was to run through a trap-door at the bottom of the inclined plane, where it would again be drawn upward by the lodestone. But the law of magnetic attraction is the same as that of gravitation, and the action of the lodestone upon the ball during its descent had not been counted on.



JACKSON'S IDEA OF BALL MOTION.

The same man who devised this magnetic machine, Bishop Wilkins, who was a well-known man in England two centuries ago, hit upon the idea of using an Archimedean screw. The screw was to be fastened in an inclined position, with its lower end in water. A series of paddle-wheels, at regular intervals apart, were to have the screw as their axle.

The revolving screw would draw the water up to a trough at the top. From the trough the water would run down into a series of basins placed at the tops of pillars, each basin being directly above one of the paddle-wheels and emptying its water upon the paddles. Of course, nowadays almost everybody would realize at once that the weight of the descending water would not be sufficient to move the water-laden screw.



ADDLEY'S MACHINE.

To-day every schoolboy would see the fallacy in the attempt to solve the problem by forcing the water in a narrow vessel upward by the superior weight of the water in a wider vessel connected with it at the bottom. Yet in Bishop Wilkins's day that was a favorite experiment. Of course, if the water in the narrow vessel could be forced upward it could be emptied at the top into the larger one and continue to circle about indefinitely.

The Stone Wall of Law.

If it were not for the fundamental law of hydrostatics, that water will not rise above its own level, we should have had perpetual motion many years ago, and the human race would not have to work so hard for its living.

On the Western plains the irrigating ditches sometimes seem to be running up hill. Of course it is an optical illusion. An Englishman in Colorado, however, who thought he observed such phenomena, explained it by remarking that in rushing down the steep slopes of the Rockies the water gained such momentum that it could run up hill for long distances. As long as there is such ignorance in the world there will be somebody to continue experiments with the overbalancing water machine.

All through the eighteenth century there were hundreds of perpetual motion inventors in London with such contrivances as this and the magnetic machine and the overbalancing wheel, all claiming that they had solved the problem. There was sad need of a man from Missouri.

Dr. William Kenrick, who used to lecture at "The Devil" and other taverns, on his discovery of self-motive power, would have found the presence of such a man in the audience embarrassing, for the doctor was never in a position to make a show-down. Yet for nineteen years he kept in the public eye as the discoverer of perpetual motion.

In 1770 he went so far as to publish an advertising prospectus of a company to put his discovery on the market, in spite of the fact that his machine failed to go. He was not a swindler, but a fanatic, and all the money he got hold of, which was not much, was spent in improving his machine.

Sometimes he was reduced to desperate straits, and at such times, while hiding from bailiffs, who wanted to lock him up for debt, he would send pathetic appeals to Garrick, the actor. Sometimes Garrick gave him money; sometimes nothing.

The bailiffs were close on the doctor's trail one day when he sent a frantic request to the actor for a loan. There was no reply.

By the time the doctor was able to emerge from seclusion he got even with Garrick by writing and publishing a scurrilous attack on him. After Garrick had sued him for libel, the doctor humbly apologized and the suit was withdrawn.

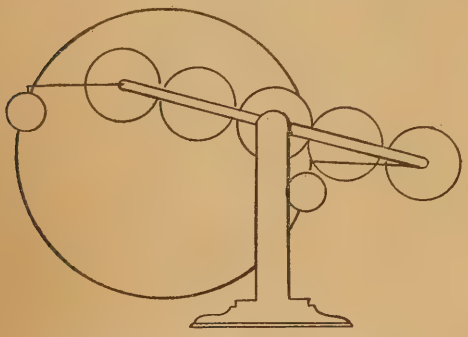
Parkes on "Air."

William Parkes was a professor of philosophy at Newington, Surrey. He was another of the swarm of deluded perpetual motion inventors of the latter part of the eighteenth century. He hit upon the idea of using compressed air to accomplish his purpose.

"Air," said the professor, "is not formed by art, but by the chemical process of nature. It is perpetual, for it

fills the whole expanse between earth and the canopy of heaven. It is obtained without expense, being everywhere present, and it will give motion to every kind of mechanism."

A grand idea was his. Compressed air would run his machine, then the machine itself would continue to compress



FERGUSON'S MOTION WITH WHEELS.

air to keep it going. Hence, perpetual motion.

The world had made great strides forward a century after these monomaniacs followed the fleeting fantom, but it was still ready enough to listen with some credulity to a new idea for perpetual motion, just as it is to-day. Even President Garfield went to inspect John Gamgee's perpetual-motion machine in Washington, and the National government came near giving its official sanction. In fact, for four months experiments were made with it in the Washington Navy Yard.

Getting to Headquarters.

"If it succeeds at all," said the New York *Evening Post,* "it will be of far greater consequence than any invention of modern time."

There was no joke about that. If it had succeeded it would have startled the world. It came near startling the country as it was, for Chief Engineer Isherwood, of the Navy Department, had dreams of running war-ships with it before many months wore on.

It was called a zeromotor, because it was designed to operate at a temperature of about zero.

"My invention," explained Gamgee, "relates to the employment as a motor fluid of a liquefiable gas or vapor of adequate tension, the product of a liquid which boils at or near the temperature of surrounding objects. I find that by working such a gas or vapor expansively in one or more engine cylinders, its heat can be converted to such an extent into mechanical energy or motion that at the exhaust it will have returned in great measure to its original liquid condition, from which state it may be again caused to assume the condition of a motor vapor or gas by exposing it to the needed temperature."

A Very Cruel Fact.

The agent Gamgee employed was anhydrous ammonia. The ammonia vapor would expand against and drive the piston of the machine, then issue from the back end of the cylinder as a liquid, which would run to the front end of the cylinder, where it would expand again as vapor against the piston. Then it would run back to the other end, and so on, in one perpetual round, without any assistance from fuel. Water would be fuel enough.

"Water at sixty-six degrees," said Gamgee, "will give heat enough to yield one hundred pounds pressure per square inch on the piston."

"Beyond a doubt this would be power enough to drive war-ships," said the chief engineer of the navy.

"And if it won't be enough," said Gamgee, "water at blood heat will give me two hundred pounds pressure, which ought to be more than required to drive any ship afloat."

Now, as has been proved since to the satisfaction of everybody, while a motor vapor during its expansion is a useful source of power, it is wholly unavailable after it has expanded. It may be brought again to the expanding or condensed condition, but if the cost of the restoration be computed, not the smallest fraction of gain can be discovered.

Gamgee's motor would make one stroke, but never another of its own accord. Think of a steam engine that exhausts directly into its boiler and you will have an idea of the main feature of his plan—enough of an idea to make you wonder why it was taken seriously.

A fear that some other government would step in and get possession of this marvelous discovery haunted many an official at Washington and spurred the Navy Department on in its experiments. Gamgee's supporters were at a fever heat of excitement. The world was on the verge of a new era of industrial development which would be the greatest in history.

But something was wrong. The machine almost worked, but not quite. Suddenly the bubble burst. The experiments were stopped. Gamgee left Washington in disgust, and not another month passed by before the latest sensation in perpetual motion was forgotten.

Differential Fly-Wheel.

A few years later, in 1897, Benjamin C. Pole, of Washington, District of Columbia, came into the lime-light with a bewildering contrivance of wheels within wheels. He talked of the discovery of an absolutely new law, which governed the operation of continuous or wheel levers. He called his invention a differential fly-wheel, and announced that a five horse-power engine would be made to develop one hundred horse-power, or in fact any amount of energy, limited only by the strength of materials and the possibilities of mechanical construction.

"We are about to realize," said one of his supporters, "the most vivid and fantastic dreams of a mechanical Utopia."

Then at last came Tripler, with his liquid air. Ten years ago people did not know much about liquid air, and there was a prevailing impression that it was going to be the great source of power of the immediate future. It was such a new and mysterious and spectacular force that the public was willing to believe almost any fantastic story about it.

One day Tripler announced that from one gallon of liquid air he would be able to produce three or four more gallons of liquid air.

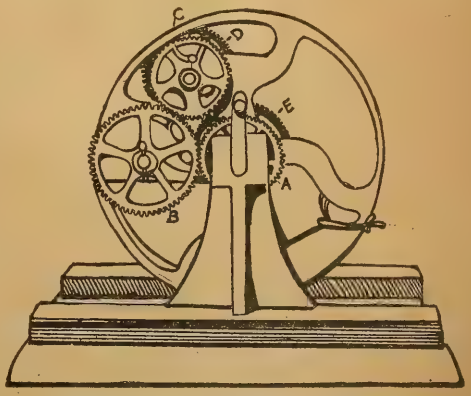
Wilshire Discovers Tripler.

It was some time before the public grasped the amazing significance of this assertion. In fact, it was not until H. Gaylord Wilshire published a pamphlet announcing that, with Tripler's ability to produce three gallons of liquid air from one, the age of perpetual motion was at hand, that people realized what stupendous results there might be. Wilshire headed his pamphlet, "Perpetual Motion at Last!" and declared that he would proceed to make a practical demonstration of his ability to make three or four gallons of liquid air from one.

Henry Morton, president of the Stevens Institute of Technology, wiped out this glittering prospect by proving that the expansion of a given weight of liquid air in one cylinder, so far from developing a power capable of liquefying an equal weight of air in another cylinder, as Wilshire had asserted, would be incapable of liquefying a single drop.

Surely a long-lived delusion, this one of perpetual motion. It has outlived the declaration of the French Academy that such a thing was impossible by almost a century and a half. No scientific body in the world would think of considering it for a moment.

If the grand discovery should ever be made, scientists would be thrown into such a state of bewilderment that they would be willing to admit the possibility of upsetting any of the fundamental laws of physics. They would be willing to believe that water could run up hill,



OLE'S CONTRIVANCE OF WHEELS WITHIN WHEELS.

or that you could put two marbles into an empty cup and take out four.

Yet when the first experiments with radium were being made a few years ago, such a distinguished scientist as

Lord Kelvin intimated that this new mystery might mean the possibility of producing perpetual motion.

It is true that a grain of radium the size of a wallflower seed might be made to swing a tiny pendulum for three thousand years, but at the end of that time the source of power would be pretty well exhausted.

Still, not all of the scientists are absolutely safe from an idea that possibly an absolutely new force will be discovered that will give perpetual motion to the world. If a man only has imagination enough, he is willing to admit the possibility of anything.

It is to the imagination that the idea of perpetual motion appeals rather than to the reason. It always has some hold upon the imagination, no matter how absurd it may seem. Some of the most wonderful swindlers that ever lived have realized this fact and have taken advantage of it.

Mr. Bacon's concluding paper on this interesting subject will appear in our February issue.

UP-TO-DATE RAILROAD DISCIPLINE.

What the Burlington Is Doing To Remove Personal Feeling from the "Carpet" and Make Punishment Scientific.

THE system of disciplining men by "laying off" has lasted a long time, but there are signs that it is passing into disrepute. The wonder is that a system so unscientific and ineffective should have lasted so long, and its disappearance is one of the most promising of the many signs that the relationship between the roads and their employees is being placed on a sounder basis.

Mr. Daniel Willard, second vice-president of the Burlington, speaking of this recently, said:

"The practise of suspending a man cannot make him better, and it deprives him of the opportunity of earning money with which, perhaps, to support his family, and not infrequently when a man has been so deprived of the opportunity to work the punishment has borne most heavily upon those who are dependent upon him. It does not seem that a proper system of discipline should cause such results.

"It should be possible to keep such a fair and, at the same time, accurate record of men, that it can be made a sufficient basis for a system of discipline which will satisfy the requirements of existing conditions. Such a system will call for greater care and personal attention on the part of all officers than has been given in the past, but it is believed that its importance justifies the additional effort."

Mr. Willard outlines the plan to be pursued in future on the Burlington:

"A complete and accurate service history of all employees affected by this order will be kept in the office of each division superintendent, and also in the office of the superintendent of the several employment departments.

"No entry will be made a part of the record of any man until the case has been fully investigated, and the employee affected will, if desired, be given personal hearing in that connection. Whenever a record entry is made the man affected will be given in writing an exact copy of such entry.

"Any employee found guilty of disloyalty to the company, of insubordination, or drunkenness, will be dismissed from the service, and will not be reemployed. An employee whose service record clearly indicates that he is not a safe or fit man to retain in the service will be dismissed.

"Promotion will, in the future, as in the past, depend upon the service record of the man involved, and upon his fitness for increased responsibilities. When these are equal as between two men, the one older in the service will be given preference.

"An employee, upon his request in writing, will at any time be given a copy of his service record.

"Officers directly in charge of men affected by this order are especially requested to report for entry all commendable actions on the part of such employees, as well as those actions which may justify criticism or reprimand.

"The purpose of this order is to assure constant and permanent employment to those employees whose service records indicate their fitness for the positions held, or for increased responsibilities."

TREASURE OF THE WORLD.

BY STEPHEN CHALMERS,
Author of "The Cataclysm," "A Daughter of the Armada," etc.

Philip and Verina Go on a Picnic, and Howells and His Crew Go Treasure-Hunting.

SYNOPSIS OF PREVIOUS CHAPTERS.

PHILIP SAND, being informed that he has a year before tuberculosis will claim him as a victim, prepares to get the best out of the time. Being financially ruined, he raises ten thousand dollars on his life-insurance policy of fifty thousand from a money-lender named Merton Scragg, who opens up on the comfortable promise that Sand will not be living that day a year. He charters a yacht to go treasure-hunting, sends the yacht ahead, and himself goes down on the regular liner for Panama. On board he meets Miss Verina Harding. They are wrecked. Sand finds himself on the only fruitful island of a group. He finds pigs inhabiting a cave containing boxes, which turn out to be the treasure-chests he is in search of. He builds a lean-to with the gold bars. He is startled by the presence of Miss Harding, who has wandered from a camp of the shipwrecked sailors in order to avoid the attentions of an American drummer.

The drummer discovers the house of gold and tells his companions. The cupidity of Captain Howells and his men is aroused, and they compel Philip to yield up the treasure.

CHAPTER XII.

Mysterious Doings.

WHEN the dawn of the next day came, Philip Sand was alone before the golden hut. The hut was empty.

Knowing that they would be watched, Philip had taken advantage of the darkness before dawn to lead Verina to the cave which was to be her temporary habitation. He himself had returned to the hut to await the coming of Howells's gang. He had a word to say to them.

Philip was weary as he stood on the beach and watched the sun come up over the pile of rocks to the east. It had been a long night—a night of sweet agony, self-denial, and wavering determination.

After that momentary yielding to the call of the heart, Philip had gently led her into the hut and whispered one word:

"No."

Then he had returned to the beach and taken up guard, as on the previous night. But this time he did not sleep.

At the first streak in the east he awakened her gently. She arose without a word and followed him. He led her by the hand over the rough places of the beach and through the brush to the cave. For once, he was grateful that the pigs had not returned. The air of the place was clean and fresh and dry.

He left her there. Verina remembered that little parting all her life. It is strange, but a fact, that the dawn has a peculiar power of impressing incidents upon the memory. It was always as yesterday morning that she saw Philip standing dimly in the cave-mouth, with his face half turned to her.

"Don't worry," he said; "it will soon be light."

Then she heard his steps receding among the brush, followed by a silence which was accentuated by the dripping of the dew outside, the far rippling of the sea waters on the coral sand, and the first calls of awestricken birds. The

Began in the October Railroad Man's Magazine. Single Copies, 10 cents.

light brightened, and, in a rosy bar, burned athwart the cave-mouth.

The light had come, but it appeared to be an eternity before he came. She sat there, for hours as it seemed, listening to the throb of his heart, feeling the touch of his lips upon her brow, and hearing the soft, regretful—

"No."

Philip heard them coming, long before they appeared at the edge of the brush by the pile of barren rocks. Arrived upon the beach, they stopped. They saw the defender, and seemed surprised. For a minute they gathered in a little group and talked excitedly.

Then Philip saw Howells drive his fist into his palm. Next moment he and his men were advancing steadily toward the hut. They stopped, as before, about twenty paces away. Philip nodded.

"Well?" said Howells. "So you've decided to fight—eh?"

"No. But I have something to say. Then I turn the treasure over to your care. Remember, I don't give up all claim to it. I merely turn it over to you, pending a division, as agreed upon."

Howells turned to Higgs, and the two worthies whispered for a few minutes. Higgs did most of the whispering. Then Howells turned to Philip, at the same time waving his hand impatiently at Higgs, as one who would say:

"All right; I'm no fool. Leave it to me."

To Philip he said: "We agree to that. I'm mighty glad, Mr. Sand, that you look at it in the sensible way."

"I do," said Philip. "I put myself on record as protesting against a downright theft. If it were not for certain circumstances, I would see you all in blazes before I gave up one gold-brick. As it is, I am making a virtue of necessity. Once you get this treasure, there will be no division in which *I* will figure—or the lady. And if I may further express my candid opinion," he added, fixing his eyes on the most intelligent-looking of the five seamen, "none of you men will figure in the division either. It will all go to Mr. Higgs and Captain Howells, unless Captain Howells succeeds in cheating the estimable Higgs out of his share, too. The captain, gentlemen, is out for the loot!"

"If you say another word—" began the captain; but Philip thrust a quick hand into his right-hand pocket.

"It will pay you to be patient, captain," said he. "In a few minutes you will have half a ton of gold to play with; but, for the moment, I claim the privileges of the floor.

"I hope you men will realize the duty which fate imposes upon you with this treasure," said Philip half solemnly. "Remember the needy and distressed when you come to spend it, for otherwise it will bring you worse luck than you ever dreamed of.

"It's an unlucky bit of property—this treasure," he went on. "That's why I am not particular about having any of it, or anything to do with it. I wouldn't saddle myself with bad luck for all the world. Every one who has ever had this stuff has had bad luck ever after.

"Even I, as you know, have had bad luck with it, but I can shake the luck by shaking the treasure. The original owners were the Indians, mostly. They, poor devils, would have had no bad luck if they hadn't had all that gold. But they had it, and, until the day they all died, they were oppressed and tortured and murdered by Spaniards.

"Then the Spaniards had the treasure, and thought to sail to Spain with it. They brought in it ships to Panama. There they loaded it on mules and took it across the trail to Chagres. On the way, the men died by the score from yellow-jack.

"By the time they got to Chagres, there were hardly enough of them left to handle the mules, let alone care for the treasure. And on the way they ran short of food and bartered golden images for bits of bacon. You didn't know that, did you?

"Then other Spaniards loaded the stuff aboard a galleon and set sail for Spain. But whoever touched that treasure had bad luck. Before they were a week on the water, an English buccaneer came along and fought the Spaniard. The Englishman boarded her, made the Spaniards walk the plank, took out all the treasure, drank all the wines, scuttled the galleon, and sailed away on their own ship.

"And then the bad luck began to

work on them. They were afraid to go sailing about with so much money aboard, so they thought to bury it before the bad luck got its fine work in. They buried it here, where I found it. Then they sailed away; but they hadn't got rid of the treasure's bad luck, because they were still owners of it—of the treasure and the bad luck.

"They never came back for that treasure. Why? They were either overtaken by a storm and sunk, or an English frigate got hold of them and strung them all up on the yardarm.

"So you're welcome to this treasure. I hope its bad luck won't follow you. I've had a taste of it, and enough at that. Good morning, gentlemen!"

Philip turned and walked into the brush, leaving seven men staring after him in dismay, as if the picturesque word-weaver carried away with him all that was worth while about the treasure.

"Bah!" said Howells, spitting. "Did you ever hear such swash? Come on, lads! The stuff's ours. Let's get it to our end of the island, to begin with."

The spell was broken. The men began chattering like children, and fell upon the hut like a gang of wreckers. In a few minutes the roof of branches and turf was torn down, the men cursing as the dried earth trickled into their eyes.

Presently they were taking down the bricks, one by one. They took off their shirts—such of them as had shirts—and used them for ropes with which to suspend a load of bricks between two men.

In two hours they had carried the bulk of the ingots to their camp at the eastern end of the island. And here they paused, grinning over their triumph, staring unbelievingly at the wealth at their feet, while they wiped the perspiration from their faces.

"And *now!*" said Howells with the ferocity and force of a nervous man, "I've got a plan about hiding this stuff.

"So long as that Sand fellow knows we have the treasure, he will lodge his claim with the first shipmaster that comes along. Then, whether he gets any himself — and I don't think he will if a Yankee trader gets on the job—it will mean a lesser division for us."

"That's right!" "It's ours!" "We don't mean to share with nobody!" came as a chorus from the men.

"What I propose is this," continued Howells, "that we load up the boat and move the stuff over to that other island —the one we first landed on. We can bury it in the sand there. Half an hour after the job's done there won't be a sign of the sand ever having been touched.

"We'll mark it off mathematically, then come back here and make terms with Mr. Sand. If he won't agree to keep his mouth shut about there ever having been such a thing as treasure in the business, then—well, we won't have any violence, boys, or anything like that —not unless he's likely to be a dead give-away."

"Knock 'is block off, is wot I ses," said the cockney.

"Hear, hear!" sang Higgs with enthusiasm.

"Well, we ain't come to that yet," said Howells, grinning.

"But wait a minute!" he cried suddenly. "There's something else that's on my mind. None of you has stopped to think, let alone ask, where this treasure came from.

"Sand says it was hid on this island. We don't know how much there was of it. Maybe there was more, and the gold bricks was all he needed for building the house. How about the rest?

"Before we do anything, I move that, having the whip-hand, we go back right now and find out from Sand where he got the treasure. He's *got* to show us!"

"Bill 'Arkaway!" exclaimed the cockney. "Didn't I sye so to you—that there was prob'ly more where the bricks cyme from?"

"Back we go!" cried the captain decisively. "One of you—you, Svenson—stay here and keep an eye on the stuff, though 'tain't likely anybody'll be around. Come on, lads."

They started back, taking the usual short cut through the brush. As they came out on the beach, the captain called a sudden halt, and himself took a peep along the coast. Then his eyes traveled out to sea, and he gave a great start.

Next moment he turned sharply upon his men. His eyes were starting from his head, and his face was white with nervous dread.

"Look here!" he gasped. "There's a ship on the horizon, and coming this way. We've got to do this job—quick—and *thorough!*"

He accompanied the last word with a significant motion of his hand. There was silence; then the cockney sailor laughed:

"That's wot *I* ses!" said he.

CHAPTER XIII.

A Picnic for Two.

THE moment Philip entered the cave he saw that tact was needed to avert another sweet catastrophe. She had been listening intently for his coming. His sudden appearance robbed her of self-control, and she could only look at him with eyes in which glad relief was apparent.

"I'm so glad you've come," she said, after a moment or two. "I think it was foolish of you to go back there."

"Of course it was," said he cheerfully. "That is why it was fun. You see, I had a chance to make a speech, and I made it—with great success. I sometimes think, Verina, that if I were writing a novel I should make my principal character a man who loved philosophy, and had certain theories of his own which he liked to get off on the slightest provocation.

"Don't you see what a handy man he'd be in a story—the sort of character that would fill in gaps, and could be made to pop up in any old place, at any old time, to make a speech that would help along the story. Let's go on a picnic."

"A picnic!" she exclaimed. Festivity of any sort was far from her mind.

"Why not?" said he. "We are free as the air, and as free from care, and—all we need is three more feet with a lilt to make that worthy of art-lettering on a card. It's a fine day. We've got rid of the troublesome old treasure.

"This part of it"—he kicked one of the boxes—"will no doubt take care of itself. Let's go on a picnic. I want to try my hand at cooking breadfruit, and I have a great idea that you could make a stew out of that pawpaw thing. Come on!"

There was that about his way of asking, in conjunction with the warm sunlight and the relief of his coming, which made Verina leap to his proposal at once.

"We'll climb the hill," said Philip. "Bring the fishing-line."

"What on earth do you want the fishing-line for?" she cried, laughing. "Are you going to fish on the hilltop?"

"Verina," said he reproachfully, "don't make fun of my fishing-line. Its uses are manifold. I catch fish with it ordinarily, but it does for a piece of string sometimes. Then, too, if your vanity should suddenly attack you, you could put the chain of pearls on, or adorn yourself with the ruby brooch.

"Some day, when islands are no more, you will wear that pearl string around your—around your neck, and think, between courses, how Philip Sand used to use it for a fishing-line to catch the course before that. But, seriously, I need the ruby to light the fire to cook the breadfruit. Sounds like the house that Jack built."

And so Philip rambled on as he led her through the brush. His mind was really as serious as it ever had been. He was thinking about Howells and his gang.

There could be no doubt that the unreasoning lust of treasure was upon the man and his companions. Philip felt positive that they would not be satisfied with the ingots. Unfortunately, he himself had dropped a hint that the treasure had not always stood on the spot where the hut was—or had been—for he had no doubt that it was pulled down by this time.

In his mind he followed the movements of the wreckers, and presently arrived, as if by telepathy, at an intuition of what really transpired at the eastern end of the island.

They would surmise that the treasure came from some cache, and they would naturally reason that there was probably a lot of miscellaneous stuff where the gold came from, and that the ingots only had been of use in building the hut. As soon as they had recovered from the ex-

citement of hauling the gold, they would burrow in their minds for some new sensation. It was the main symptom of the disease of acquired wealth—*more!*

Howells and his gang would seek a new sensation, like a drunkard who drinks more to offset what he has drunk. They would seek more treasure, and—here was what was at the bottom of all Philip's mental gravity—when they had cornered all the treasure they would go a step farther and make the treasure safe. They would make the secret of it safe, too; and murder is only a short step from theft when discovery is the alternative.

Perhaps Philip had been foolish in that brave speech of his. Perhaps he had endangered Verina more when he had warned the men that he would claim his —and her—share of the treasure. It was like throwing suggestion into their teeth. Perhaps they would chew it over and decide that the treasure was not theirs as long as Philip Sand lived.

He did not suppose that they would do away with such a beautiful creature as Miss Harding. But they might kill him, and then— There was Higgs, smarting under humiliation and thwarted infatuation.

That is why he assumed the light-hearted manner and took Verina away from the cave. And away from the cave he meant to keep her—for a little while, at least. During the day he might ascertain the mood and movement of the treasure thieves. From what he learned he would form his own actions.

Verina suspected nothing of this. In Philip she discerned nothing but a kind of philosophic playfulness and humor. As they walked through the brush, he picked flowers for her, quoted poetry over them, laughed like a schoolboy because a flower by any name was somehow not as sweet; and presently she herself felt like a schoolgirl stolen away of a truant afternoon with some congenial young person of the opposite sex.

They gathered some young coconuts and three or four fine breadfruit, with a few mangoes for dessert. Then they climbed the grassy hill and found a sheltered rock on the leeward side of the peak. There they sat down, and Philip proceeded to build a fire and light it with the aid of his ruby and the sun.

When the fire was half burned out and glowing redly, Philip buried the breadfruit. Then began the pleasant game of waiting for the roast and passing the time in quiet talk and observation.

It will be remembered that from this hilltop a view was obtained of the whole island, with the exception of the beach, which, save at intervals, was hidden by the overhanging coconut-palms.

It had taken them some time to gather their provisions and reach the hilltop and to settle themselves there. About half an hour passed before Philip suddenly saw, through a far break in the belt of jungle, a procession of men.

"They're coming back," he thought to himself. "Now they will find the cave and get what they are looking for. If we had stayed, there might have been trouble—and violence."

Just at the break in the belt of luxuriance the procession stopped. Philip saw the leader, Howells, talking earnestly to his men. Then they started forward at a run. In a moment they were gone; but Philip's eyes moved to the next break in the belt of luxuriance, and watched the splash of white beach for the further progress of the men.

"Picnics," he observed quietly to Verina, "are silly things when you come to analyze them."

"This is very pleasant," said Verina, almost sleepily.

"Ye-es," said Philip. "But it does seem absurd"—the group of men flashed past the second break; they were still running—"absurd when you think that people walk ten miles, say, with the idea of eating a sugar cookie by a certain rock or in the shade of a particular tree."

Verina laughed lightly. "What a queer brain you have," she said.

"I got it from Grandfather Septimus," said Philip, by way of pleading not guilty. "Once an aunt of mine came to visit our house, and she brought her baby along with her. In the night the baby cried. Grandfather Septimus lay awake all night, wondering what ailed the baby.

"Next morning he asked my aunt. She said there was nothing the matter with the baby. Grandfather Septimus declared that there must be, otherwise the baby wouldn't have cried.

"'But all babies cry,' said my aunt, in a tone of authority.

"'Then,' said Grandfather Septimus, 'all babies are ailing. It is human nature to cry, but no human thing cries unless it is miserable.'

"The thing seemed so logical that my aunt felt sure that the baby was sick. She sent for a doctor. The doctor laughed, and said there was nothing the matter with the baby. It was in the nature of babies to cry. But Grandfather Septimus stuck to his argument, and later in the day my distressed aunt discovered that the baby's milk had been too hot and its little tongue was slightly raw.

"So, you see, there might be something to Grandfather Septimus's argument about all babies being ailing when they cry. I like to speculate on trivial things. I got it from Grandfather Septimus—

"But where was I? Oh—picnics!"

Philip had observed the treasure thieves running over a bigger stretch of open sand near the cave. He wondered, as he rambled on about babies and picnics, what Howells's lot were doing at that moment in the cave, and what they would have been doing if they had found him in possession and defiant.

"But that baby might not have known what it was crying for. And I am sure ninety-nine persons in a hundred don't know just why they go picnicking. There's the fun of it—to enjoy oneself and not know why, just as the worst kind of unhappiness is to be miserable and not know why."

"Well, why *do* people walk ten miles to eat a sugar cookie under a particular tree?" asked Verina, sleepier than ever, for the air was quiet and the far sea looked somnolent, and the sky was of a lulling blue.

"Well," said Philip, watching the belt of sand, "it's mostly a matter of congeniality. Uncongenial persons at a picnic make the outing the worst kind of a fiasco. But if they are congenial, they become as children. They forget things. It is what they talk about—usually nothing very intellectual, as on this particular picnic. They suddenly wake up to the fact that they are living as nature intended they should live—as children of the sun — for does anybody ever picnic on a wet day? And they find a special delight in migrating, as our hairy, ancestral tribesmen did.

"They find themselves, without realizing it, on nodding terms with the trees and flowers and in touch with all nature. They get back to earth, which is one of the most blessed states I know of. Really, when men speak of castles in Spain, they speak of dreams that are very much of primitive human nature."

Verina did not answer. She was reclining on the ground with her eyes closed, and she was wishing that this hour could be stretched into eternity. She loved the man at her side, for his gentle humor, his thoughtful speech, his quiet acceptance of so much that is overlooked or scorned by men of the world. She loved him. She wished to forget that he was doomed, and that she herself—

"I should think the breadfruit must be about roasted," said Philip, lazily scrambling to his feet. "Come, Miss Cook, and let me have your expert opinion on culinary matters. You didn't enter my employ with the idea of letting things burn, did you?"

Verina sat up and watched him as he fiddled with the breadfruit in the fire. He seemed very clumsy. The stick with which he tried to spear the big, round black ball broke off short, just because he levered it wrongly.

"Take two sticks and pull it out!" she cried scoffingly. "There! I never saw such a clumsy man. Give them to me. I'll have it out in a moment."

She took the sticks from him and began operations herself. Philip smiled and stood up beside her as if he would stretch his legs. But he had succeeded in distracting her attention. He gave a swift look at the bit of beach—the second break to the eastward. Presently six figures went past, each staggering under a box.

Six figures and six boxes!

"That's the last of the treasure. Now I hope they will keep away!" thought Philip.

"There!" said Verina, who had succeeded in extracting the first of the roasted breadfruit from the fire. "Now, if you will lend me your penknife, I'll scrape the crust off. My, but it's hot!"

Philip gave her the penknife, and di-

vided his attention between her and the eastern end of the island.

"What are you looking at?" she asked suddenly, raising her head just as he shaded his eyes.

"It's a perfectly lovely spot, this," said he lazily. "Isn't it cool enough yet?"

Presently she had cut the breadfruit into slices, which she smeared with the soft pulp of mangoes. Philip sat down to assist at the eating.

"And by the time we have eaten this, another will be ready," she said, her mouth half full of the delicate stuff.

"Ye-es," said Philip. He had taken his seat opposite her, so that he could look over her shoulder to the eastern point of the island.

Half an hour, or it may have been an hour, passed in desultory talk, while they ate breadfruit and mango. The breeze freshened about them and hummed over the hill, but it did not disturb them beside the sheltering rock.

All at once Philip sat up straighter and stared away to the east. Next moment he was on his feet, and surprise was stamped on his face. He could no longer conceal his interest in something at the other end of the island; nor did he try to.

"What is it, Philip?" Verina asked, getting up and following his line of vision.

"A boat," said he, amazed. "Upon my soul! I do believe they are leaving the island. Look!"

Off the eastern point of the island they could see a black spot, which presently swung around and revealed a boat, very low in the water, being rowed in the direction of the barren isle to the east.

"That is the boat we came in," said Verina quickly. "They are going back. Thank goodness!"

"Thank wickedness," Philip corrected. "What fools they are. They'll be lucky if they ever reach the other shore, for she's low-laden and the breeze is freshening. I wonder what their hurry is? She looks as if every ounce of the treasure was piled into her. And there are five men. There must be two ashore— Probably she couldn't stand another pound."

"Philip!" Verina suddenly screamed. "Look! Look! *A steamer!*"

Philip spun around and looked blankly at the smoking funnel of a small steamer, which was not two miles to the northwest.

"Good Lord!" was all he could say for a moment. Then he realized many things. "That accounts for their hurry. They're trying to hide the treasure before that steamer comes up—trying to get it off this island, at least, so that, if my story was told and believed, the treasure wouldn't be found. That's it! But what ship is that? It's coming right here!"

Then Verina did a seemingly strange thing. It was just impulse growing out of her woman's wit. She suddenly began to gather all the fuel she could find lying around loose—leaves, sticks, and dry grass. These she piled on the fire, and then began to tear up green turf and pitch it into the blaze.

"Philip!" she cried, while she worked. "Our fire—on a hilltop! They must have seen our smoke. Let's make more!"

"That's just the right explanation," said Philip, tearing up turf. "Anyhow, we'll make no doubt of it. More smoke! They were probably searching for survivors of the Revuelan, and saw our smoke.

"Good for you, little woman!"

A few minutes later, while the smoke poured from the dampened fire and drove away to leeward, Philip and Verina were running down the hill. The officer on the bridge of the steamer could not fail to see them.

He did see them, but he also had his eye on a mysterious rowboat to the east of the island. Through his glasses he could see that the boat was heavily laden, and that its rowers were trying to make the greatest possible speed.

"That's funny—trying to get away," mused the officer.

He lifted his glasses again, and all at once he uttered an ejaculation. He dashed to the signaling apparatus and flung over the indicator to full ahead. Nearing the inshore waters the steamer had been going half-speed.

"They've got what they might have expected," said the officer to himself as the steamer's speed increased. "Bear

away east'ard, quartermaster!" he snarled at the man at the wheel. A moment later he cried to the deck: "Get ready with that starboard lifeboat, Mr. Aulick."

Philip and Verina had reached the beach by this time. The steamer was still coming on straight for the island. Philip felt a wave of relief sweep over him. Verina was saved. But, next moment he experienced an incomprehensible pang of regret. The coming of the steamer meant—

"Philip!" Verina fairly screamed. "It's a yacht—a steam-yacht. *It's the Chameleon!*"

Philip stared. He could hardly believe his eyes, but he could his ears; and the yacht's identity had struck Verina Harding, too. There could be no doubt about it. The steamer was the yacht Chameleon. The officer on the bridge was probably Captain Pearce. How this came about was beyond his understanding or credulity. Yet there it was—his own chartered treasure-hunting yacht, the Chameleon!

Then the yacht did an unexpected thing. It suddenly veered in its course and shot away at increased speed toward the east end of the island. Philip and Verina watched it for a minute with sinking hearts.

"Oh!" wailed Verina. "They haven't seen us. They're going away. Wave, Philip—shout!"

And Philip shouted. He tore off his coat and shouted, while he frantically waved the garment. Aboard the Chameleon they could not fail to see. Suddenly the officer on the bridge lowered his glasses and waved his hand, as if to say:

"All right! We see you, but we can't stop just now."

"What does it mean?" asked Philip of nobody in particular.

Then there came a crashing in the brush. The man Higgs and the sailor Axel Svenson came toward them at a run. Higgs's face was as white as a dead man's, and his knees were giving under him. He tried to say something, but he could only articulate a number of incoherent gabbles. The Swedish sailor was cooler, although he, too, was visibly perturbed. To Philip he said quietly:

"Ay tank bad luck ban in dat tr'asure, all right. They ban all sank and drown!"

CHAPTER XIV.

The Rescued and the Lost.

"WHAT happened?" Philip demanded.

The Swede poured forth a long explanation, only half of which Philip understood, the man's dialect was so extraordinary. This much he could make out, that the treasure's bad luck had pursued its owners to the end, and that Howells and his gang were food for the fishes.

"How is it that you two were not with them?" Philip asked. "You, Higgs, get up on your feet and be a man for once. You appreciate the fact, I hope, that I can place you in jail for your share in this business?"

Higgs got up. He had been sitting on the sand, rocking back and forth and moaning with horror. He was a pitiful exhibition of rank cowardice.

"He's told you! Oh, I never want to see a thing like that again!"

"Look here, Mr. Higgs," said Philip angrily. "Your only chance of keeping out of jail is to tell me a straight story before that ship comes back to pick us up. That ship is my ship. Do you understand what that means to you?"

Higgs sobbed once or twice, then told his story.

"We took away the gold," he said. "Then, when we were talking about it, Howells and the Englishman agreed that there was more stuff where the ingots came from, and that we should get the whole lot, so as to cover up the existence of the thing. So we started back."

"He ban goin' to kill you," said the Swede quietly.

"I thought as much," said Philip calmly. "He meant to get the treasure by hook or by crook—eh, Higgs? And you didn't say anything, did you? Verina," he said, turning to the lady with a smile, "aren't you glad we went on a picnic?"

"I swear—" began Higgs.

"Swear not at all," quoth Philip, "but go on with your story."

"We got the boxes from the cave. We easily found the way you went," said the cowardly Higgs, perceiving that truth was to his advantage as matters stood. "Maybe it was a good thing you weren't there, Mr. Sand, because Captain Howells and the Englishman had agreed to cut your throat, anyway, because you might tell—"

"Never mind Howells and the cockney," said Philip. "They're dead, Mr. Higgs."

"Howells saw the ship," said Higgs, "and he swore it was the long chance or nothing. He said we must take the treasure over to the other island and dump it in shallow water if we hadn't time to bury it. He hoped to do this before the ship got up and saw us. He thought the ship would be paying attention to you people."

"Well, if the ship was anything like us, we were not paying attention to each other. We were watching you people," said Philip.

"Then you know what happened. Howells was crazy-mad. He piled that stuff into the boat as if it was a man-o'-war, and then ordered us all to get in. The four men and Howells got in, and the water was near up to the gunwale. Howells told us we could come or stay; but when he saw how laden the boat was, he didn't seem particular about our coming; and I sure didn't want to go. What's the good of treasure when you're dead?"

"Exactly!" said Philip with a laugh. "Just what I've been saying all the time. Go on!"

"They got along all right while they were in the shelter of the island. But once outside, they began to strike the very same currents that bothered us when we were coming here, and the sea was rough. In about five minutes—Oh, Lord! I never want to see a thing like that again. You tell him, Svenson."

"Dey ban all sank an' drown," said the Swede monotonously.

"Well, that's the sum and substance of it," said Philip. "They were all sunk and drowned. Another chapter of the bad luck attending that treasure. Here comes the yacht."

The Chameleon nosed around the point of the island at half speed.

"Maybe they picked one or two of them up," said Philip to the Swede.

"Naw, sir," said Svenson stolidly; "dey ban all sank an' drown. Ay *saw!*"

Presently the yacht hove to, and a boat, which had been trailing alongside, put off and came toward the shore.

"Look here," said Philip to Higgs and the Swede, "it may be that I will decide to keep quiet about all that has happened—not because I want that cursed treasure, but because if I talk treasure some others may get excited over it. It is a business in which neither of you—and I am speaking of you in particular, Mr. Higgs—figure very creditably. If you value your necks you can leave it all to me, or at least you can leave out the treasure."

"I don't want to hear another word about it!" exclaimed Higgs, with ludicrous sincerity.

Presently the yacht's boat grated on the beach. An officer stood up and raised his hat to the lady. He stepped ashore and looked at the four survivors interestedly.

"Were you people on the Revuelan?" he asked abruptly.

"I fancy we are the sole survivors, if collectively we can be 'sole,'" said Philip. "What is your name, sir?"

"Aulick—first mate of the Chameleon—a private yacht," said Mr. Aulick, curiously wondering who the deuce this cool interrogator might be.

"Very well, Mr. Aulick," said Philip, who had never seen or been seen by his first officer before. "You will take Miss Harding and these two men aboard at once. This man is Higgs, sole agent for South America and the West Indies of the Kurve-Kut Korset and the No-Kut Klip. The other man is a Swede—a sailor from the Revuelan. My name is Sand—Philip Sand."

"Philip Sand—Mr. Sand!" exclaimed the first officer. "Ha! We are in luck. Captain Pearce will be pleased to hear this. You are our owner?" touching his peaked cap.

"Charter member," laughed Philip, returning the salute.

"What has become of the others? I mean, we saw—"

"Yes," said Philip, with an assumption of sadness he did not altogether

feel. "You have seen all there were. The captain was swept overboard early on the night of the gale. We foundered.

"Five sailors, the first mate, Howells, and three passengers, were saved. The mate and four of the sailors were trying to make the island to the east, and I have just learned of their fate. Poor devils!"

"Too bad!" said Aulick, looking curiously from face to face. There was something odd about it all. "Anyhow, you must be anxious to get aboard."

Room was made in the boat for the four survivors.

"I wonder will I ever see that island again?" said Philip to no one in particular.

"I should think you have seen enough of it," said Mr. Aulick.

"I have seen a good deal of it," said Philip, looking at Verina. "Some of it I will forget. Some of it I will not forget. Some of it I have no wish to forget."

The first officer caught the look and wondered just what Mr. Sand meant. Miss Harding looked back at the green belt of palms, at the soft, round hill and at the little column of smoke.

"Philip!" she said, then quickly corrected herself. "Mr. Sand—do you know that we forgot our breadfruit. They must be roasted to a cinder."

Philip laughed. It was not a sincere laugh—rather forced. Mr. Aulick glanced at the two faces and smiled under his mustache. He understood. There was a romance here.

"You must be wondering," said Aulick, breaking the silence, "how we came into these waters so opportunely. The captain, of course, will tell you in detail. We were at Colon, waiting for you. When the days went by and the Revuelan did not turn up, it began to look ugly, especially when the Revuelan was not reported beyond Fortune Island and the news came of a hurricane in the passage.

"When the steamer was overdue four days without a word of her having been sighted, it seemed clear that she had met with a mishap. The New York office which arranged your charter, Mr. Sand, cabled us to sail in search of the ship or information. I suppose it was you they were mainly anxious about."

"Very kind of them," said Philip; "surprisingly thoughtful."

"We called at Kingston," said Mr. Aulick, "and learned that there could be no doubt that the Revuelan was wrecked or foundered. Some of her stuff came ashore at Turk's Island—the main island of this group. Several bodies—I beg pardon. I forgot the lady."

"All right," said Philip. "The captain will tell the story. Here we are."

A hail came from the bridge of the yacht. There was Pearce, brilliant in his captain's laced uniform. He recognized Philip before the boat came alongside and sang out a glad welcome.

"Sorry we weren't in time to save those other fellows, but they must have been crazy to try that sea in an overladen boat," he cried.

The captain himself was at the gangway to welcome the castaways. He shook hands with Philip, and swore that this luck was an augury of more to follow—this with a knowing wink which spelled "Cocos Islands." Then he turned to Miss Harding. Before Philip could say a word by way of formal introduction, Miss Harding extended her hand and said:

"How do you do, Captain Pearce!"

"How—how—" stammered the captain, his face blank with amazement. Then he seemed to remember something. "How de do, Miss Harding? Never give up the old ship, I see!"

It was then that Philip remembered Verina's recognition of the yacht Chameleon, and her statement that she had once sailed on her as the guest of her owner, Merton Scragg. Was it possible that Merton Scragg was *the* Merton Scragg to whom Philip had mortgaged his life for twenty thousand dollars?

(To be continued.)

The rails may be bright—but it isn't the polish that carries the trains.—The Section Foreman.

A Santa Fe Giant.

Largest Passenger Locomotive in the World. Equipped with Most Complete Economical Devices Ever Combined on One Engine.

THE first Mallet articulated compound engine to be built for passenger service has just been completed by the Baldwin Locomotive Works and delivered to the Santa Fe. This engine is the largest and most powerful passenger engine in the world. It is the 1300.

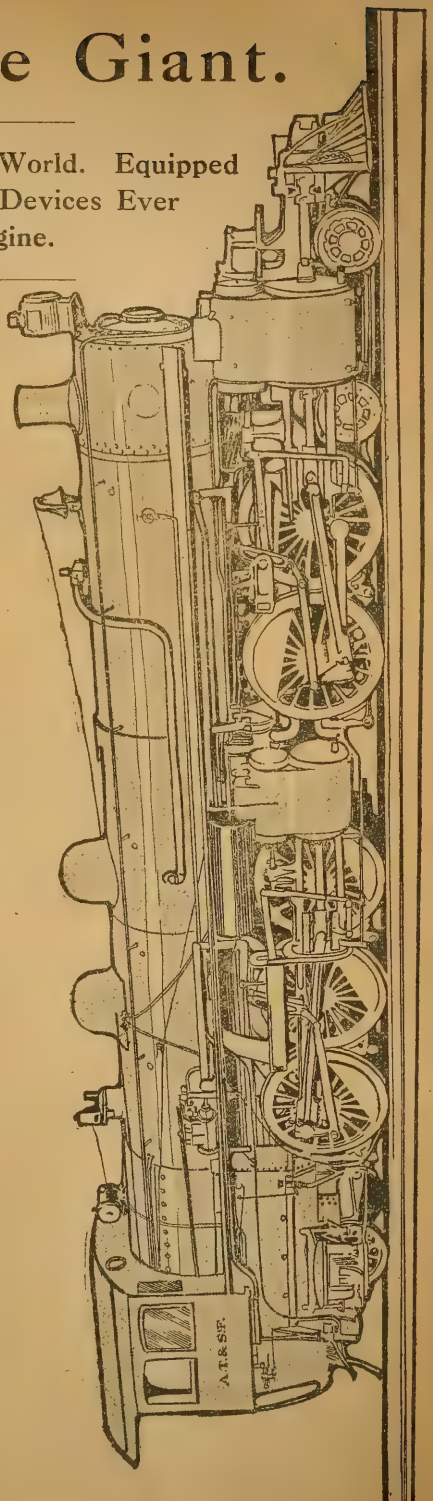
It weighs, without tender, 376,450 pounds, and has a tender capacity of twelve thousand gallons of water and four thousand gallons of oil. Complete, the engine and tender weigh 600,000 pounds.

Its driving-wheels, of which there are ten, articulated in two sets, are seventy-three inches diameter. The rear set is composed of three pairs of drivers driven by the high-pressure cylinders, and the forward set is composed of two pairs driven by the low-pressure cylinders.

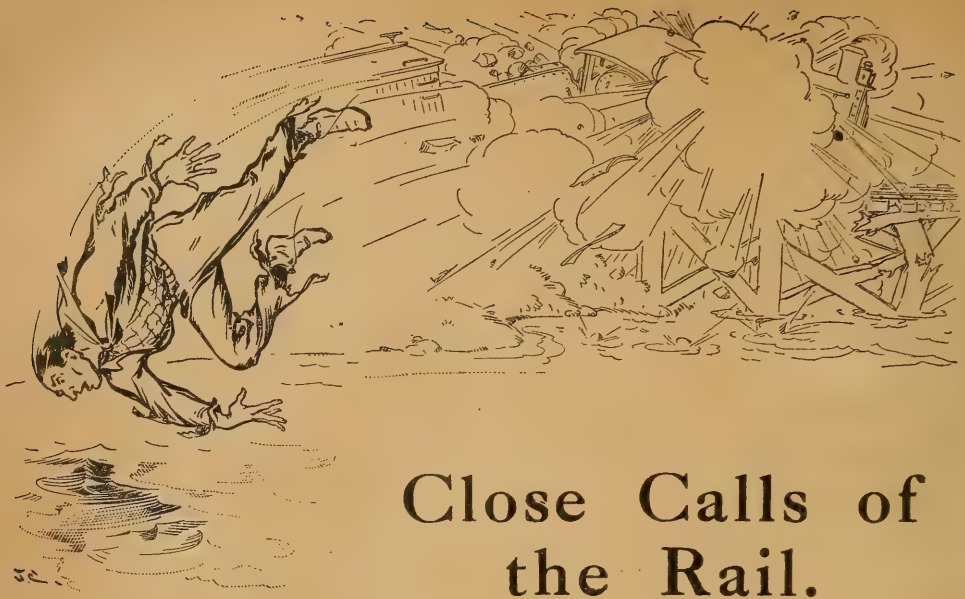
The total tractive effort of the locomotive is 53,000 pounds, its weight on drivers being 268,000 pounds, and its total driving-wheel base thirty feet four inches. A total heating surface of 4,756 square feet is provided, the fire-box having 202 square feet and the tubes 4,554 square feet.

A unique feature of this engine, or, rather, a group of unique features, is its system of fuel and steam economy. It is the first engine to be built with the combined features of feed-water heater, which brings the water to boiling-point before feeding it into the boiler; superheater, for superheating the steam; and reheater, a device through which the steam passes when exhausted from the high-pressure cylinders, before passing into the low-pressure cylinders.

The engine is for use in the mountain districts of southwestern California and Nevada.



THE LARGEST PASSENGER LOCOMOTIVE IN THE WORLD. BUILT BY THE BALDWIN LOCOMOTIVE WORKS FOR THE ATCHISON, TOPEKA AND SANTA FE.



Close Calls of the Rail.

BY OLIN CRAWFORD.

NOT every one struck by a railroad-train is killed. Those who live to tell the tale usually get a great deal more fun out of the experience than the casual reader—or the casual spectator, should there be one—imagines. From time to time we have published thrilling stories of railway wrecks, but none of them is quite so remarkable as the tales of close calls which Mr. Bacon has collected, for he deals with individuals and not with rolling-stock.

Dortch's Fly—Where Boyle Landed—Saved the Dog—A Ride on the Pilot—The Human Chain—A Mussed-Up Home—Thompson's Hair Cut—and Others.

WHEN the boiler of a locomotive blows up, it is a slim chance, indeed, that a man in the cab will live through the catastrophe. To any one who has seen an engine torn to pieces by the terrific force of its own steam, or has even set eyes upon the tangled wreckage left by the explosion, it must be almost incomprehensible that a man ever did come through such an accident with his life. Yet it was the narrowest of chances that saved Bill Dortch from getting his final clearance.

Bill Dortch was the fireman on freight No. 36 on the Atchison, Topeka and Santa Fe, which, while rolling eastward on the morning of January 19, 1907, came to the bridge over Kill Creek, near De Soto, Kansas.

The engine was half-way across the broad stream when, with a roar that was heard for miles around, the boiler burst. A great cloud of steam rose high in air, and what was left of the engine, a tangled mass, dropped through a hole in the

damaged bridge and went splashing into the creek.

After it went the cars, fourteen of them, crashing on top of one another through the break in the span.

Three men were in the cab of the engine. One was F. W. Bartell, the engineer. Another was H. E. Shaw, a brakeman. Long afterward, their bodies were found buried under a tangled heap of wreckage.

The third man in the cab was Bill Dortch. It seemed to him, after the explosion, that he was flying. At last he went plunging into the waters of the creek, a long stone's throw from where engine and cars had struck.

The water was deep and terribly cold. Probably he never would have lived to tell the story had not a mass of wreckage drifted by him at that moment. He clutched at it and held on, and it drifted with him to the shore. When he reached land he was nearly breathless.

There he lay, half frozen, until a rescue-party found him. He was badly cut and bruised, but it was a nine-days' wonder along that division of the Santa Fe that he had not been picked up in small fragments.

Frank Boyle's Escape.

It was at Kellam's Bridge, fifty-five miles from Port Jervis, New York, that the same curious chance fell to the luck of Frank Boyle, head brakeman on an Erie freight-train, on the morning of December 29, 1903.

The locomotive had failed to make steam; and a moment later, while the fireman was shoveling in coal, it exploded without warning. Boiler and firebox leaped high in air from the trucks, followed by a dense cloud of smoke, steam and flame, falling back upon the twisted trucks.

The engineer, fireman, and a track-walker who had been standing near the engine were blown over a high embankment into the Delaware River. The fireman was killed instantly, and the others were badly hurt.

Boyle, who had been riding in the cab, and who was standing just behind the fireman when the explosion came, was hurled through the air with terrific force, but, instead of going down the embankment, he landed on the track, one hundred feet ahead of the wreck.

For a moment he lay stunned. Then he picked himself up and came hobbling back, with a sprained knee, to help rescue the wounded.

"Boys," he said to the survivors, "I've made up my mind that nothing can kill me."

Caught the Last Car.

The escape from death of Hans Hansen, a wealthy resident of Roosevelt, New Jersey, was almost as strange. On the afternoon of July 26, 1909, he was crossing the tracks of the Central Railroad of New Jersey, near Carteret, in his automobile, when a freight-train, pushed by a big hog, backing down at a high rate of speed, crashed into his machine.

The automobile was cut in two. Hansen had just enough time to leap from his seat and clutch an iron rung of the ladder leading to the roof of the freight-car at the end of the train.

His left leg was crushed as it struck against the wreck of his machine, but he managed to hang on to the ladder until the train was stopped.

The automobile has figured in some curious railroad accidents of recent years. Miss Lucille Bonart, of 487 Fourth Street, Brooklyn, was visiting Miss Ila Collins in Sayville, Long Island, in November, 1908.

Held Onto the Dog.

Miss Bonart owned an auto runabout, and one day she and Miss Collins went for a ride. They took Miss Bonart's small dog along.

"I think the world of that ki-yi," said Miss Bonart to Miss Collins, who was holding the dog; "so be sure you don't drop him."

Her friend held onto the animal with grim determination. Driving around a curve through the woods, they shot out upon the tracks of the Long Island Railroad. An express-train was coming along at forty miles an hour. It smashed squarely into the runabout, and wrecked it. The two girls went flying through

the air. But Miss Collins still held onto the dog.

When the girls recovered—with only torn clothes and a few cuts and bruises—they were a good many feet from the tracks, and the dog was still with them. He, too, had escaped without mortal hurt.

"Lucille," said Miss Collins, "I held onto that beast of yours as long as I could, but I thought I was never going to stop flying, and I had to drop him before I reached the ground."

Landed on the Pilot.

John Hancrow was struck by the Pennsylvania Limited, one of the fastest trains on the road, at Park Manor, a suburb of Chicago, on January 27, 1904, and lives to tell the tale.

He was walking across the tracks when the engine tossed him into the air. When he came down, he struck against the pilot. He had sufficient presence of mind to throw his arms around the iron bars of the pilot and hang there.

But the train rushed on. It was making fifty miles an hour, and the men in the cab had not seen him. He knew he must hang there until the next stop. That might be miles away. It was bitterly cold, and he was badly hurt. One of his legs and two ribs were broken, and in the teeth of the wind he had to grip the icy bars with all his failing strength.

As the train flew by the next station, a man on the platform caught a glimpse of Hancrow sprawled out on his dangerous perch, and told the agent. A minute later messages were flying along the line:

"Block the limited. There's a man on the pilot."

At the river-line station the train was stopped. Hancrow was found still hanging to the pilot. He had been carried four miles, but he could not have held out much longer, for already the cold was beginning to steal away his consciousness.

Eight Cars Ran Over Bundish.

It may have been the fact that he had been sick and had lost fifty pounds in weight that was responsible for the escape of Michael Bundish, a miner employed at the Green Mountain colliery of the Lehigh and Wilkesbarre Coal Company, near Wilkesbarre.

At any rate, Bundish believed that it was to his illness that he owed his life. On the evening of March 3, 1904, he boarded a coal-train at the colliery to ride home. He was on the eighth car from the last when, owing to a broken coupling, it parted from the car ahead.

Bundish sprang across the gap to the car in front of him, missed it, and fell sprawling upon the track. Before he could get to his feet, the eight runaway cars were upon him. He spread himself out flat and clung as close to the ties as he could. The cars rumbled over him, leaving him without a scratch.

"The trucks hung low enough to brush against my clothes," he said; "and if I had been two inches thicker through the waist, as I used to be, I'd have been done for."

Out of the Fog.

How often it happens that in a wreck where there are many victims, there is one person whose escape reads like a miracle. On April 19, 1909, there was a rear-end collision on the Central Railroad of New Jersey at the Communipaw Avenue Station. One person was killed and thirty were injured.

A passenger-train of six cars, bound from Jersey City to Newark, was standing in the station. Five of the cars were comfortably filled, but the mist lay thick on the Jersey marshes; and the commuter instinct, which says: "'Ware the rear car in a fog," left that one empty.

Out of the fog, on the same track, to the rear, came the big 504, drawing a pay-car. It was going thirty miles an hour when the tail-lights of the Newark train leaped out of the mist not thirty yards away.

The fireman caught the red flare of the lanterns and threw himself from the cab. Middlesworth, the engineer, stuck to the throttle, reversed, and threw on the air. It was too late. The heavy engine ground through the rear car of the Newark train, telescoping it almost from platform to platform.

Although nobody was inside the car, Miles Barth, of Jersey City, had just climbed onto the rear platform. As the engine plowed through the car, Barth was pinned under the pilot in such a way that he escaped with only a few scratches. Twenty minutes later, he crawled out.

Hung Over an Embankment.

In another train wreck in New Jersey, the escape of not one, but forty, passengers seemed almost incredible. It was on November 15, 1906, that Erie train No. 57, from New York, was pulling into Belleville. Another passenger-train was waiting on a side-track to allow it to pass.

The engineer of the waiting train miscalculated the distance, and started too soon. His engine struck the last coach of the New York train, lifted it from the track, and swung it over a high embankment.

"I HELD ONTO THAT BEAST OF YOURS AS LONG AS I COULD."

The side of the car was splintered in the crash. As it swung, end down, in mid air over the fifty-foot embankment,

the forty passengers were hurled on top of one another until they were packed into a solid mass of humanity.

The heavy coach hung there, held only by its coupling. Then the passengers began to struggle up to the upper end of the almost perpendicular car, using the seats as rungs of a ladder.

Some of the women had fainted. A human chain was formed by the men, and they were rescued. Not one person had been seriously hurt. Even the two men in the cab of the colliding engine had come through with scarcely a scratch.

It Mussed Up the House.

Trains have curious adventures sometimes when they go on a tear. Late one night in September, 1904, an attempt was made to shunt three Lackawanna cars onto a trestle at Newark. But, instead of taking the trestle-switch, the cars passed over it, and continued down a steep grade to where the tracks terminated.

They crashed through the bumper and went rolling on into the yard of Commissioner James Snape, of the Newark Board of Education. One car was loaded with thirty tons of oats, another with baled hay, and the third with fifty tons of coal.

They knocked over a giant shade tree in front of the commissioner's home, then tore away the brick front of the house up to the level of the second story, razing part of the foundation wall.

The first car went on into the parlor, smashed the piano and all the furniture into splinters, scraped all the pictures from the walls, tore through the partition into the dining-room, and was hurtling into the kitchen, when the floor collapsed and the car dropped into the cellar.

The hay-car had stopped outside, tilted sideways against the front wall. The coal-car remained in the street.

On the second floor of the house, Commissioner Snape, his wife, their two daughters and six-year-old son, were sleeping. All except the boy jumped out of bed, thinking the rupture an earthquake.

The boy was thrown from his bed, but the shock did not wake him. He was carried into a neighbor's house, still sleeping peacefully, and was much surprised when he woke up, several hours later, to find a railroad car in his home and two others outside.

McGovern On the Job.

It was at Newark, too, on December 19, 1903, that several runaway freight-cars would have caused a disastrous wreck had it not been for the courage and quick decision of an engineer. On a steep grade on the Lackawanna, the coupling broke between the third and fourth cars, and the tail end of the train began to run backward down the grade. So rapidly did they gain headway that the brakemen on board were powerless to stop them.

In the station, a passenger-train was waiting on the same track as the runaways. Thomas McGovern, the engineer, saw them coming a quarter of a mile away. Without a moment's hesitation, he jumped from the cab, rushed to the coupling, and parted his engine from the train. He shouted to his fireman to jump to the lever; then, as he uncoupled, he gave the order: "Go ahead!"

The engine started. McGovern jumped back into his cab.

Down came the runaway cars, gaining speed with every second, and the engine flew on to meet them. McGovern pulled the throttle wide open.

"Jump!" he cried to his fireman. Both leaped out into the cinders and landed unhurt. Five seconds later the engine went crashing into the freight-cars, splintering the first into pieces and knocking the others from the track. The engine itself was wrecked.

McGovern, followed by his fireman, came back to the station to report. He had saved his train and the lives of scores of his passengers.

Shaw's Joy-Ride.

Blind luck carried Samuel Shaw safely through a wreck on the Susquehanna and Western at Middletown, New York, in February, 1904. Charles Spitzer, an engineer, was lying underneath his locomotive, making some repairs, when Shaw,

a plumber, who had always shown a lively interest in railroads, happened along and decided to get aboard.

He climbed into the cab and pulled the lever. Spitzer, when he found the engine moving, scrambled out from under the wheels just in time to save himself, but he was too late to jump aboard.

The engine, with the plumber at the throttle, was gathering speed rapidly. At length it smashed into several freight-cars. It stove a big hole in the first, and knocked them all off the track — but the engine held to the rails.

WILLIAM X. THOMPSON IS TREATED TONSORIALLY.

The collision brought the engine to a standstill, and, several minutes later, Spitzer and several other railroad men came upon the scene, expecting to find Shaw dead or badly wounded. Instead, he was sitting calmly in the cab, surrounded by the débris of the wreck.

"What's the matter with you?" demanded the engineer.

"Well," said the plumber, "I just felt the need of a little excitement."

The proverbial luck of the drunken man in dangerous places was with William X. Thompson while he lay asleep beside the tracks of the Belvidere Railroad at Trenton. He was lying on the cinder path with his head against one of the rails.

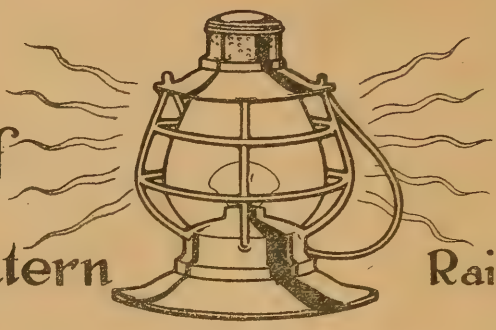
A freight-train came along at a good rate of speed, but Thompson was sleeping too soundly to hear it. He awoke with a cry of terror. The trucks of the cars were grazing the top of his head.

The wheels cut his hair close to his scalp, and left him almost unhurt.

While a group of railroad men were standing about him marveling over his escape, a policeman happened along and arrested him. A judge fined him five dollars for drunkenness and creating a disturbance.

WHAT'S THE ANSWER?

By the Light of the Lantern



Questions Answered for Railroad Men

ASK US!

WE like to be as useful to our readers as we can; but, because of the great popularity of this department, we are forced to impose certain restrictions. In future, we shall be compelled to limit its scope to the answering of questions of an informative, technical, or historical nature only.

We receive dozens of queries in regard to the right person to apply to for certain classes of employment. If the writers will pause for a moment to consider, the title of the proper official will readily occur to them, and in any case the information can be obtained by application to the headquarters of the company involved, much more quickly than we can publish it.

If a reader, after following these directions, still finds himself lacking in information, and will write us, giving his full name and postal address, we will try to satisfy him through the mail, but we cannot answer any letter in which it is not made clear that some real difficulty exists.

PLEASE explain what is the proper way to put camber in a Howe truss when you are renewing an old span? Would you wedge the old span up to the required camber and build up the new one on that, or would you build the new span on false work and then put the camber in by spacing the top and bottom chords? If this is the right way, please explain how it is done, and how you can put in the camber by spacing the top and bottom chords. What is the breaking strain on a main tie or chord-bar per square inch?

C. C., Coquille, Oregon.

The proper way to put camber in a new Howe truss is by making the top chord longer than the bottom one, thus causing the chords to curve slightly. This curve is the camber. A good rule for finding the amount of camber to put in a bridge is to divide the span in feet by fifty, which will give the camber in inches. Using this rule, the formula for the increase in length of upper chord over the lower is:

$$\frac{8 \times \text{depth} \times \text{camber}}{\text{span}}$$

It would probably not be advisable to wedge up the old span when it is about to be renewed, unless it has deflected to such an extent as to become dangerous. The method of building the new span would depend on local conditions, such as topography, number of trains per day, cost of timber for false work, ease of driving piles for bents, etc.

The breaking strain on a main tie or chord-bar is the elongation of the member when loaded to its ultimate strength. The above will answer the question if you are using "strain" in the correct way, as meaning deformation. The stress per square inch at failure is the ultimate strength of

the material per square inch multiplied by the area of the section in square inches.

SOME railroad men speak of the air-brake on a locomotive as "straight air." What is this brake, and will it operate as now piped?

(2) Which wheel on a locomotive will slide going around a curve, the one on the inside, or the one on the outside rail?

F. M., Helena, Montana.

(1) This term implies that compressed air is used as a direct force from the main reservoir supply of the locomotive, through direct piping to the brake-cylinders on the vehicles to apply the brakes. It simply requires a valve on the locomotive to admit air to the brake-pipe and brake-cylinder, in order to apply the brakes; to hold it there when admitted, and to exhaust it when desiring to release the brakes.

This apparatus was brought out by George Westinghouse, Jr., in 1869. The air-pump at that time had the so-called "trigger," or "jigger," valve motion, which will no doubt be recalled by many of the older readers of this department. The brake-valve was the simplest form of three-way cock.

The hose couplings were "butt end," male and female, which necessitated there being a male and female coupling at each end, so that a connection between cars might always be made. If the engineer wished to apply the brakes, he placed the three-way cock in service position.

This permitted the main reservoir air to pass through the three-way cock into the train line, and thence into the brake-cylinders, which were directly connected with the train line. When the desired pressure had been admitted to the train line and brake-cylinders, the three-way cock was placed on lap, in which position all points were blanked.

The pump would continue compressing air into the main reservoir to be put in the train pipe when the valve was again placed in service position. To release the brakes, the engineer placed the valve in release position, which allowed the air coming from the train line and brake-cylinders to pass to the atmosphere through the three-way cock.

This equipment had many good qualities and a very large degree of flexibility, but its shortcomings made it unsuited for use on trains of any considerable length. Chief of them was the time required to apply and release the brake, and the unequal braking effort through the train. The factor of safety was low, as no warning was given in the event of hose becoming uncoupled, and a parted train meant no brakes. Thus it is seen that it lacked the first essential of an efficient brake, which is, that it must be its own "telltale," that is, if an accident occurs to the system, it must result in a brake application instead of a loss at the brake. Many freight as well as passenger engines of the present day have, in addition, the straight air-brake for holding the engine independent of the train.

(2) The distance traversed over the inside rail of the curve obviously being shorter than by the outside rail, the wheels on the inside must slip or drag sufficiently to compensate for the difference in length, presuming, of course, that you refer to the driving wheel, or rigid wheel-base.

H. S. B., Bocas-del-Toro, Panama.—The full list of trainmasters on Canadian railroads is far too long for reproduction here. The best we can do with space available is to quote the names of a few of these officials, as follows: Grand Trunk, C. G. Bowker, Stratford, Ontario; J. P. Kirkpatrick, Ottawa, Ontario. Canadian Pacific, J. H. Boyle, Assistant Superintendent, Montreal, Quebec, and R. W. McCormick, Assistant Superintendent, Ottawa, Ontario.

H. W., Verda, Louisiana.—(1) The average pay of passenger engineers is about three and three-quarter cents per mile, and of freight engineers about four cents per mile, a day's work to consist of one hundred miles, or less. That is, a full day's pay for any mileage less than one hundred miles, if it cannot be made in ten hours. On some runs a day's pay is allowed if an engineer is called and is not needed, on others one-half day's pay is allowed.

(2) Hard to strike an average for monthly pay. Should say for passenger engineers about $125, and freight men about the same. Some passenger engineers in regular service make close to $200 in exceptional cases, and before the sixteen-hour law this amount was not unusual in freight service.

(3) The work on an oil-burning locomotive is very light for a fireman compared with that on a coal-burner. His duties consist of manipulating the valves controlling the supply of oil and the control of the atomizer. They are usually required, however, to be experienced in burning coal.

(4) Wipers receive from $1.00 to $1.25 per day. At some roundhouses they wipe on the piece-work basis, so much per en-

gine, and might earn much more than figure quoted. There is no defined rule anywhere that we know of insuring that a wiper will be given a chance at firing.

Men are hired directly into the service as firemen. We have always held to the opinion, however, that it would be of much benefit to a future fireman if he could have some preliminary training about the roundhouse as a wiper or a general helper. This plan is followed in some sections, but there is far from being any uniformity about it.

(5) When an engineer changes his road, he enters on the new road at the foot of the list of engineers. This is principally the reason why so few engineers do change. It means the loss of seniority, and with it the pick of the good runs, which latter always go to men oldest in the service. Occasionally engineers are dismissed for violation of rule, but this is very seldom. Their long years of training never fail to bring a keen realization of duty and responsibility, and it is a rarity, indeed, when they are found lacking.

(6) The Pennsylvania system, with its subsidiary and controlled lines, is regarded as the largest railroad, about 13,000 miles.

E. H. H., Mexico City, Mexico. — For works on the air-brake address *Railway and Locomotive Engineering,* New York. Air-brake inspectors are employees of railroad companies, and as such have no official connection with the United States government or the Westinghouse Air-Brake Company. Their duties consist in locating air-brake troubles, and in some instances assisting in the repairs. All railroads, practically, require a daily and rigid examination of air appliances on locomotives and tenders, and specially trained men are developed for this work. The pay of roundhouse air-brake inspectors is variable, but may be regarded about the same as machinists, say $3.50 per day.

CAN an engine and tender alone run between eighty-five and ninety miles an hour, and stay on the rails? Has this ever been done, and is there any record?

What is the fastest time known to have been made by any train?

H. L. M., Moline, Illinois.

Yes, it is possible, but it would be an ill-advised performance to attempt, as the motion of an engine at that speed would be disagreeable and disconcerting, to say the least. The liability to derailment on high-degree curves would be very great. Speed records are never attempted without a reasonable weight to impart the necessary steadiness to the train when rounding such curves. There is no official record of exceptional time by a light engine, and local records are in the main unsatisfactory. The editor of this department recalls an occasion on the Chattanooga division of the Southern Railway, when it became necessary, owing to a breakdown, to send a light engine about sixty-three miles to the west of Knoxville. This run was made in fifty-eight minutes. Beyond this one instance, we cannot speak from experience.

The greatest speed attained by a locomotive of which there is official record, was made by engine 999 of the New York Central and Hudson River Railroad, which, on May 9, 1893, covered five consecutive miles at the rate of 102.8 miles per hour. It is claimed that one mile of this phenomenal run, near Grimesville, New York, was covered in 32 seconds, or at the rate of 112.5 miles per hour. On May 19, 1893, engine 903, a double of the 999, covered the same ground with the same train, the Empire State Express, consisting of four heavy parlor-cars, at the rate of 100 miles an hour.

IF the tracks of a third-rail system were to become covered with snow, or flooded, is there the same danger of electrocution by contact with the third rail?

F. McC., Adama, Oregon.

No more danger exists under above conditions than if the rail were in its normal state. Snow will not conduct electricity to an appreciative extent. If it were a conductor, it would short-circuit the third rail and the running rail, blowing circuit breaker in the power-house and cut off the current.

D. C. A., Cedar Rapids, Iowa.—Castings and other parts for model locomotives are sold either in the rough or with the necessary machine work done. Those handled by the Sipp Electric and Machine Company, Paterson, New Jersey, run in sizes for the following gage of track—three and one-half inches, five and a quarter inches, and seven inches.

CAN you give me the statistics regarding how many persons are killed or maimed each year by the wheels of railway cars? Also if the wheels were

properly fended would not a large percentage of these particular accidents be prevented?

H. B. B., Dallas, Texas.

For the year ending June 30, 1907, which is the latest for which we have tabulated statistics from the Interstate Commerce Commission, the total number of persons, other than employees and passengers, killed, was 6,695; injured, 10,331.

The figures include the casualties to persons trespassing, and which latter comes properly within the scope of your question. Of these latter, 5,612 were killed, and 5,512 were injured.

The total number of casualties to persons other than employees, due to being struck by trains, locomotives, or cars, was 5,327 killed, and 4,876 injured. The casualties of this class at highway crossings were: Passengers killed, 1, injured, 20; other persons killed, 510, injured, 682; at other points along the track, passengers killed, 4, injured, 12; other persons killed, 3,845, injured, 2,263.

Fenders applied as you suggest would not be a protective measure. The speed of steam railroad trains is such that, while the fender might guard against the victim getting under the wheels, the blow inflicted by it would be necessarily fatal. The only logical remedy is to guard the railroad to all possible extent against trespassers by crossing-gates operated by vigilant watchmen; hedge-fences along the right of way, and sharp, broken ballast over ties, on which it is impossible, or at least very unpleasant, to walk.

D. O. H., Silvis, Illinois.—We cannot find anything in book of rules instructing that headlight be covered under the track conditions which you mention, but it is a good practise to follow just the same. Of course, as this second-class train is standing on the end of double track, single track rules, which require the headlight to be covered at meeting points, need not apply.

WILL you kindly advise me the cost per mile for laying a railroad track, giving cost of rail, ballast, ties, etc.; also number of tons each used, number of ties, and cost of each per ton.

J. C., Jr., Philadelphia, Pennsylvania.

The material required to lay one mile of track, is eight cars of ties, five cars of rails, and one car of rail fastenings, or, to put it another way, there are required 3,168 ties, if these are laid eighteen to the thirty-foot rail, which is the number required for good construction, although a cheap road may be built with fourteen or fifteen ties to the rail; 352 rails, which, if they are of the usual length of thirty feet, and eighty pounds to the yard, will weigh 281,600 pounds; 704 angle-bars, and 2,112 bolts, to hold rails together, and 5,632 pounds of spikes, to fasten them to the ties. The cost of track-laying varies greatly, but the average may be somewhere near $200 to $250 per mile, and again it may be as much as $500. Ties cost from thirty-five to eighty cents each, according to the kind of wood and quality. At $30 a ton, rails weighing eighty pounds to the yard would cost $3,771 per mile of track; rail weighing one hundred pounds to the yard, at same rate per ton, would cost $4,714 per mile of track. This estimate is, of course, for simple track-laying, and does not include grading or filling.

F. P., LaGrande, Oregon.—The only thing we can suggest is for you to watch the daily papers for advertisements indicating that men are wanted for railroad service on the lines mentioned. We do not know of any agency to secure labor for railroads in the tropics, and don't believe that one exists in this country, but if it does, your question, answered in this way, will no doubt bring it to light.

F. H. D., Riverside, California.—The California Limited of the Atchison, Topeka and Santa Fe was put in service in 1895. We have not been able to secure definite information up to this writing on the other train you ask for, but will advise you later.

G. W., Milwaukee, Wisconsin.—You can obtain full information from the postmaster in your city regarding the qualifications for railway mail clerks, date of next examination, and all other matters pertaining thereto. You understand that these positions are under civil service rules, and there is no difference in the requirements between railroads.

D. M., Peabody, Kansas.—We cannot advise you regarding telegraphy as a profession, because the information which has reached us in the past along these lines has been conflicting to a degree. It seems to be an overcrowded profession, at least just at present, and if your intention is to make a life-work of it, take your time and inquire thoroughly into the demand for operators.

Neither can we advise in regard to the merits of the various telegraph schools, as we have had no personal contact with them, and, in fact, know nothing whatever beyond what is contained in their various advertisements. Our best advice to you would be to talk the matter over with some old operator who can be depended upon to give you proper counsel.

A. F. G., Brilliant, Ohio.—Address the United Wireless Company, 42 Broadway, New York City, New York, for information desired.

WHERE is the fastest train in the world, what is its time, and the miles it makes?

(2) Where is the fastest long distance train, and how many miles will it average an hour?

(3) How long can a train run at the rate of ninety miles per hour?

(4) What is the best time Italian trains make in Europe?

(5) Have any foreign railroads trains which make as fast time as in the United States?

G. A. W., Penns Grove, New Jersey.

(1) The fastest short distance trains in this country are from Camden, New Jersey, to Atlantic City, New Jersey, distance 55.5 miles, in 50 minutes, via Reading Railway, and Pennsylvania Railroad.

(2) The Empire State Express of the New York Central leads as the fastest regular train for distances over 100 miles. Its run is from New York to Buffalo, 440 miles, in 8 hours and 15 minutes, or at the rate of 53.3 miles per hour. Eighteen hours between New York and Chicago is the regular schedule time of one daily train each way over the New York Central lines, distance 965 miles, and over the Pennsylvania, distance 905 miles. The best performances of American railroads for long distances on regular schedule are from Oakland to Chicago, via Southern Pacific, Union Pacific, and Chicago and Northwestern, the distance being 2,274 miles, in 67 hours and 30 minutes, averaging 33.7 miles per hour, and from Los Angeles to Chicago, over Atchison, Topeka and Santa Fe, 2,267 miles, in 66 hours and 15 minutes.

(3) There are no records of any value in evidence to afford material to answer this question. Sufficient to say that this speed is quite unusual, and it is doubtful, except under exceptional conditions, that it could be realized for a single mile by any locomotive. Of course, there are a few reliable records where it has even been exceeded. See reply to H. L. M. this month.

(4) Italian trains do not go heavily to speed records. The editor of this department on several occasions timed the speed of their expresses, while a passenger between Rome and Naples, and could not make more than thirty-eight miles an hour out of it.

(5) In practically all instances where the runs are less than 250 miles the roads of England can claim superiority in speed. This is due to lighter cars, absence of grade crossings, and curves of less than 1,000 feet radius, and absolutely perfect track. The Great Northern was the pioneer in high speed on English railroads. Twenty-nine years ago, on its line between London and Grantham, 115.5 miles was made in 111 minutes. It also established, on August 31, 1888, and held for many years, the London-Edinburgh record, 392 miles in 7 hours and 26 minutes, average 52.7. Eight hours is the present schedule. The famous boat train of the Great Western, the Cornish-Riviera Express, well-known by all tourists who disembark at Plymouth, runs regularly between that city and London, 246 miles, at a sustained speed of 55.7 miles per hour. This run has been shortened recently by a cut-off near Bristol, so that it is not more than 225 miles, but the speed is still proportionately high. Other famous regular runs are the London and Bristol express, 118 miles in 120 minutes, and London and Exeter, 194 miles in 200 minutes.

W. E. H., Los Angeles, California.—We can do no more this month than refer you to reply to A. E. L., in April, 1909, number on the subject of the telephone in train despatching, and the succeeding numbers of the lantern department, to date, contain much information on the future of this experiment or innovation. It is not believed that the former telegraph operators will lose on its adoption by a railroad. At least they have not in the past, as the inquiry we have made indicates that all have been provided for as telephone operators at the same pay.

C. P. McG., St. Paul, Minnesota.—Your question, "Is there any danger of a twelve-hour working law on railroads," is too indefinite to answer intelligently. You are no doubt familiar with the sixteen-hour law for trainmen and the nine-hour law governing telegraph operators? If not, and you will specify, we will reply in an early number, or perhaps it may be that you would care to go into more detail in your original question.

"DO YOU MEAN ME ESPECIALLY? THE BOY ASKED.

THEY CALLED HIM "ARTIE."

BY CHARLES WESLEY SANDERS.

You Can't Always Tell Just Who Is a Blithering Boob and Who Isn't.

"ARTIE!"

Pat Mulville put his big red hands on his hips and thrust forward his heavy face. There was a sneer on his lips, and his eyes were bright with dislike.

"Who ever let him escape from his mama?" he went on. "Does his papa know he's out?"

Jackson, the assistant foreman, grinned. He was a little, dried-up old man, and he relished Mulville's wit.

"His papa sent him here for to learn for to be a railroad man," Jackson said.

"Well—" Mulville opened his lips for further comment, but a gruff voice behind him stopped him. "Did you get them spikes?" It was the foreman, a square-faced, stocky German, the only man in camp of whom Mulville was afraid.

"Yes, sir," the Irishman said.

"Well, open up the keg," said the foreman. "What do you think this is? A Sunday-school picnic? Get a move on you."

Mulville got a move on him, watching Artie out of the corner of his eye.

Artie was probably twenty-two. He had a boyish, clean face, with big blue eyes and fair hair which fell about his forehead from beneath the ridiculous college cap which he had stuck on his head. He was digging with the gang, throwing the heavy clay to one side with as

much speed as the others; and he did not stop to rest oftener than they.

His arms were not heavy, as they showed below his rolled-up sleeves; but if Mulville had noticed, he would have seen that they were bronzed, and that their muscles played as the lad plied his shovel.

Artie, as Mulville soon learned from guarded questions put to Jackson, was the son of the general superintendent of the road. He had decided to become a railroad man, and his father had sent him to this construction-camp, whose gang was running a branch of the D. R. and G. down toward the coal-fields.

It was a stern introduction for the boy. His companions were rough men, who feared nothing and cared for little. The work was hard for one unaccustomed to manual labor. The food was plain and heavy, and the sleeping-quarters were not nests of comfort.

But Artie—he hated the effeminate name as much as any one, but it had always clung to him—Artie had been forewarned by his father, and he determined to stick to his task till he had mastered it.

He had been well enough received by the men on his first day, though he felt that he was the subject of a good deal of comment, and that for some reason he roused their merriment. On the second day Mulville, who had been away after supplies, returned. He seemed to take an immediate dislike to Artie.

"Got a chew?" he asked, when he found himself near the boy.

"Don't use it," Artie returned. "I can give you a cigar."

"I want a chew. Why don't you use it? 'Fraid it'll upset your tummy?"

Artie bent to his shoveling without a word. Here, he perceived, was the beginning of trouble. He determined to wait till trouble was upon him before he let them know he was aware of its existence.

He wouldn't go to meet it.

At noon, after dinner, he sat outside the bunkhouse and smoked a cigarette. Mulville looked up, his mouth stuffed with bread and meat.

"Artie," he said, "don't oo smoke all dat cigarette. Oo make oo sick."

A ripple of laughter went round the sitting men. Artie cast the cigarette away. He rose. For a moment he stared at Mulville, and then he cast an angry curse at him.

"What!"

The big Irishman stared open-mouthed and made as if to rise. Then he caught sight of the foreman approaching them.

"You can't get away with that, kid," he said in a low, shaken voice. "We fight first chance we get. Do you hear?"

"I hear," Artie answered, and his face was white, but he returned the other man's glare.

Mulville, when he got his good clothes on, was an attractive fellow, in a way. He had the beauty of extraordinarily strong manhood, and he knew it. All of his twenty-six years he had won the hearts of the fair sex. Many of the girls had half won him, but none ever wholly.

When he came to this construction-camp, his first object, after he had found a barber-shop—he was very keen about his mustache and his shaven jaw—was to amble about the village till he might strike up a flirtation.

He saw a girl in a candy-store, went in, bought candy, and made her acquaintance. He had bought probably twenty pounds of candy before he got her permission to call. In a week she had him at her feet, because she did not profess an undying affection when he first spoke endearing words to her. She merely drew her hand away and changed the subject. That was so great a shock to Mulville that, all next day, he made himself miserable by half convincing himself that she cared for some one else.

She finally confessed that she did care for him, but he never rid himself wholly of the suspicion which left him ready to hate any one on whom the girl might bestow a glance of interest.

As chance would have it, the girl came to the camp the day following Mulville's tilt with Artie. She was wont to visit Mulville here at the noon-hour, her store being but a few blocks away. The men liked her for her pleasant ways and for her dark, pretty face. Some of them wondered what she saw in the burly Irishman to like.

As she sat on a stool which Mulville

had brought out for her, Artie came by. He had put away his little cap, and was wearing a soft hat he had bought at the village general store. He had a red handkerchief knotted about his throat, and his heavy flannel shirt was turned back at the collar and the wrists. He moved with an easy grace. The girl looked at him with increasing interest.

"Who's that?" she asked.

"Why?" Mulville wanted to know.

The girl looked at him in a way that always got obedience.

"Who is he?" she softly insisted.

"He's the superintendent's son," Mulville said. "He's learnin' to be a railroad man. His name is Artie—Artie."

He rolled the name out twice with a sneer.

"He seems different from the ordinary railroad man," the girl said.

She could have made no more unfortunate remark. Mulville knew what she meant by "different." He turned upon her savagely.

"Mebbe you're gettin' stuck on him," he said.

The girl turned her dark eyes upon him. They had a hurt expression. Then she rose and walked away from him. He followed her.

"Don't go, Polly," he pleaded. "I didn't mean that. You know I'm crazy about you."

She looked at him again.

"You'll have to learn to trust me," she said, "or I'll never speak to you again."

Mulville spent a miserable day. He swayed between anger at the boy and regret that he had offended Polly. He hung about after the day's work in the hope that he might "get to" Artie, but the foreman had seemed to have a premonition of trouble, and he was the last to leave camp.

Mulville, dressed with greater care than usual, and with his square jaw purple from the razor, went that night to the store about closing time. His anger had ebbed, and he only wanted to make peace with Polly. He paused on the sidewalk outside the window. Then he gasped.

"YOU'LL HAVE TO LEARN TO TRUST ME," SHE SAID.

Artie was standing at the counter, talking to Polly. He held a package in his hand, so that Mulville was sure he had done whatever purchasing he had come to do. Doubtless that was a pretense to permit him to see the girl. As Mulville saw Artie smile at her and saw

her smile back, his rage burned through him like a flame. After a while he saw the girl begin to put out the lights. Artie was waiting for her.

"She's going to let him take her home," the watching man breathed. His heart was torn with agony.

The last light was extinguished. The girl and Artie emerged from the store, she pausing to turn the key in the lock. As they stepped to the sidewalk, Mulville faced them.

"I'll take you home," he said.

"All right," she said coolly. "I didn't expect you'd be here."

"No; I don't suppose you did," he said. "I'll see you to-morrow," he continued, turning to Artie. "The foreman won't be there. I'll see you to-morrow noon."

"All right," Artie said. "I'll be there."

In spite of himself, his voice shook.

MULVILLE HELD THE ROPE STEADY FOR AN INSTANT AND THEN PLUCKED POLLY FROM ARTIE'S ARMS.

He took off his hat to the girl and turned away.

"Don't forget to mail your candy," she called after him.

It was almost the noon-hour in the camp. The work had been hard all

morning. The April day had been without sun, and a harsh wind had swept up from the river, whose mouth was still choked with rotting ice. The men worked with stiffened, aching fingers.

There had been a strange look in Mulville's eyes all morning—a look of gloating anticipation. He had taken Polly home the night before almost in silence. He had meant to ask her nothing. He would merely make Artie pay for trying to flirt with his girl.

But when he had reached her gate his rage had overcome him and he accused her. She merely walked away from him, murmuring to him not to be a fool.

When the noon-hour came, Artie walked over to the huge fire which had been kept burning all the morning. He was chilled in spite of his exertions. The other men came up and gathered about the blaze. The last of these was Mulville.

He seemed in merry humor, much to Artie's surprise. The boy began to hope he had changed his mind about the episode of the night before. Mulville shoved his way between two of his fellow workers. There was a little good-natured scuffle.

"I'll lick both of you," Mulville cried. There was a pause and a silence, then his voice rang out: "I can lick any man in the bunch, any style."

Artie knew that the man was speaking at him. A titter ran around the circle, and Artie understood that these men were not averse to witnessing a bout. He raised his head and looked across the fire. Mulville was staring at him with brilliant eyes.

"Do you mean me especially?" the boy asked, with white lips.

Mulville threw back his head and guffawed.

"Listen to the kid," he scoffed. "He's lookin' for trouble—with me, too."

"Oh, I'm not looking for trouble," Artie said lamely.

For answer, Mulville straightened up and began to walk around the fire toward the boy. Artie watched him with fascinated eyes. He had a notion, for an instant, to run; but he forced himself to hold his ground.

Mulville, when he reached him, suddenly put an arm across his throat, thrust out a booted foot, and threw Artie to the ground. The men laughed. Artie scrambled to his face, his face white with rage and humiliation. He squared off. Mulville crouched to a fighting position. Artie had learned to box in school, and he was strong for one of his build, but he weighed fifty pounds less than his burly adversary.

They sparred and feinted for half a minute, and then Artie shot his right fist into Mulville's mouth and got away before the return reached him.

A little "Ah!" of applause ran through the men. The kid wasn't so bad, after all! Maybe he was a wonder, and would put the bully out. Every one of them sincerely hoped so. Mulville, with a look of astonishment, fought more guardedly. He was not used to this hit-and-get-away style. If he could get in one punch—

The next thing he knew, Artie had side-stepped and whipped his right and his left to his mouth again. Then, while Mulville staggered, Artie jolted him in the pit of the stomach, caught him on the jaw, and danced away.

An ordinary man might have been dazed; but Mulville was much stronger than the ordinary man. He rushed at the unsuspecting boy and chopped his right down across his face. Artie dropped. Mulville stepped back, standing menacingly. Artie got to his elbow.

He knew Mulville meant to knock him down as soon as he rose. He pretended to sink back, and then he suddenly rolled away and sprang to his feet. He saw Mulville rush upon him. He fought with all his might, trying to keep cool. The big man's wild blows were like rain.

Now and then the boy landed on his face, but this seemed without effect. Artie knew that in a moment one of the swinging blows must get to him, and he knew that he would go out as soon as it did. When the blow did come, solidly on the jaw, he dropped to his knees, like an ox struck between the eyes.

He tried to rise, but could not. He heard a noise and looked up. The foreman, unexpectedly back, was brushing past him. The stocky man rushed at Mulville and planted his right fist on his face and his left over his heart. Mul-

ville staggered back, whirled, and fell on his face. Artie got to his feet. The foreman glared about him. In his fierce anger he went back to a fashion of speech which had anciently been his:

"Negs dime anyputty vants to fide, led *me* know. I lige to fide."

Mulville got to his feet and swayed toward the bunkhouse. He did not want to "fide" any more just then.

Just beyond the camp there was a main-line bridge. The valley dropped down thirty feet. Now the stream was yellow, swollen, and rapid. The ice at the mouth had been forced out into the lake, or else the waters rushed over it. There had been nights of heavy, dashing rains and days of sunshine.

Polly was a little late for work. The roads and the cross-walks were so muddy that she had struck off on the railroad track, intending to cut up a side street to the main thoroughfare before she got to the camp. She had had a quarrel with Mulville about his attack on Artie, and she did not want to see him.

She felt that she could not trust herself; for, despite all Mulville's harshness, she cared more for him now than she had ever cared.

When she came to the end of the bridge opposite the camp, she saw that the gang was at work on the main line. They appeared to be putting in a rail. As she stood looking, she saw that a man with a flag was sitting on the bank.

"Hallo, little girl!" he called.

"WELL, I'LL TAKE YOU TO HIM."

Polly was aware that the whole camp had doubtless gossiped about her and Mulville, and her cheeks flamed. She turned away, and started along the valley's brink. There was a foot-bridge farther down. She could get across that and escape into town.

Artie and Mulville were both at work on the other end of the bridge. Neither had seen Polly. They did not speak to each other, and both still bore marks of their encounter.

Artie straightened up to mop his forehead. The early morning sun had disappeared, and black clouds were crowding up the sky. While he did not wish to shirk, he hoped inclement weather would drive them indoors to-day. His nerves were aquiver over what was to happen to him that night when the six o'clock train arrived.

He bent to his work again, and Mulville straightened up. Artie heard him exclaim. All the men looked up.

"What's he pointing at?" Mulville asked.

Across the bridge the

man with the flag was making frantic gestures and pointing up the river. Artie looked. He saw a wall of black clouds extending almost from zenith to horizon. Rain seemed to be sweeping down from them.

"What's that?" Artie cried.

As he spoke there was a roar as of a rising wind driving something before it. The flagman came bounding across the bridge.

"The raft has got loose and has torn the foot-bridge away!" he cried. "That kid o' your'n went up that way a bit back, Mulville."

Mulville stood as one paralyzed.

"What'd she go up there for?" he asked helplessly.

Artie shot a glance at him, and started to run toward the embankment. Mulville had a moment of hesitation. He could fight, he could crush an adversary by his great strength, but a feat where lightness and litheness were demanded was beyond him. Yet he could not let Artie go alone, when Polly might be in danger.

That would spell the end of all things for him; for he pictured the lad as a heroic rescuer whom the girl would fall down and worship. He caught up with Artie as the latter stood peering over the brink.

"What're you goin' to do?"

"It's only a chance," the boy said coolly; "but that raft is jamming down the river, and it may have Polly on board. If she got over the bridge, she's all right. If she didn't—well, I don't see any way to get down but to slide down one of those poles."

Those "poles" were the iron supports of the bridge. At the bottom of them the water boiled about the pier. Slippery rocks ran along the bank up-river.

"You goin' down?" Mulville asked, and he ran his tongue over his dry lips.

"Sure," said Artie.

"You can't do it."

Artie laughed. It seemed easy to a man who had been a gymnasium star. He cast off his coat and his hat. For a moment he watched the current. The waters, as they swirled under the bridge, charged to the opposite shore. That would be his way of escape.

"I'll have to hustle," he said. "Hear that?"

Mulville listened. He could hear a rush of water striking water as the torrent descended from the sky. Over that sound he could hear a grinding of huge timbers as they gathered momentum in the muddy stream. A drop of water fell near them, and then more drops. Then it began to rain steadily where they stood. The fury of the storm seemed to have broken farther up the river.

Artie ran out to the bridge supports, seized one, and slid gently down. The last Mulville saw of him, he was dodging from slippery rock to slippery rock up the river. Mulville ran back to the camp and mustered his fellows. They had only a common thought, when he explained.

Half a dozen of them ran across the bridge and clambered down the far bank, to be ready if the crowding logs should be driven inshore. Some stood on the bridge as lookouts. Others stationed themselves on the near bank on a chance that the current might whirl that way.

The worst of the storm seemed over, so far as the heavens were concerned, but the work in the river had been done. The water had risen perceptibly, and it boiled and churned as it rushed beneath the bridge.

Mulville, standing there, watched the mist that obscured the upper valley. Presently an opaque object thrust its nose from beneath the curtain of mist.

"There's the logs!" cried a man on the bridge.

The raft came on, driving and sinking, rising and piling. As it entirely cleared the mist, Mulville saw Artie standing in the center of it, holding Polly in his arms. Terror for the girl's safety filled him, and he forgot to be jealous of Artie.

He seized a rope that one of the men had brought for this possible emergency. One end he knotted under his arm-pits. The men passed it once about a beam, and then Mulville went over the side of the bridge. They paid the rope out slowly till his feet nearly touched the water.

Artie, calculating chances, saw what they were doing. He knew it was a long chance to pass the girl to the swaying,

dangling man, yet it was less a chance than to carry her in his arms as he swept under the bridge and drove toward the bank.

The logs beneath him had been rolling, and they were slippery. He had difficulty in keeping his erect position from the moment he had run across the raft and picked up the girl.

As he neared Mulville, one of the logs rolled, and he almost went down. Then the log jammed between two ahead of it and held. Artie lifted the girl in his arms as he was ten feet from Mulville.

Mulville shot up one hand, held the rope steady for an instant, and then plucked Polly from Artie's arms as the logs swept under him.

Artie heard a shout above him as the shadow of the bridge took him. He thought the men were cheering. The logs began to jam and pile up. Those in front were being crowded across the channel. A log near the boy up-ended and was ground between two others as it went down like a fish.

As he came from beneath the bridge he saw the bank was very near. He sprang from log to log till he was almost at the shore. Then a log beneath him rolled, and he went spinning forward on his face. He knew that his head was bleeding and that he had injured his arm, but he picked himself up, lurched forward, spurned the last log with his foot, and fell on the wet, cold sand.

Before he fainted from the pain that shot through his head and arm, he lifted his eyes to the bridge. There all was tumult. Men were running here and there, calling loudly to each other.

For a while he had a sense of motion, and then he knew that he was in bed.

"Won't you tell me what you're waiting for?"

Mulville's tone was very humble. All the bully was gone from him. He kept looking at Polly in a hungry sort of way, as if he were not really sure she had been saved.

They had made their peace as soon as they had seen Artie taken care of. It was evening of that same day, and they stood on the station-platform, waiting for the train to come in from the East. Polly, fully recovered from her adventure, only laughed when Mulville put his question.

"You'll see," she said after a while.

Some of the men from the camp idled about the platform, casting curious glances at Polly. The station-agent came up and asked her how she felt. He said the newspapers had got hold of her escapade.

"They call that kid a hero," the agent said.

"So he is," Mulville declared.

Polly knew that her future husband had seen a light.

The train whistled and swept around the curve. When it came to a standstill, a young woman alighted. Polly ran up to her.

"Miss Grant?"

"Yes," said the girl.

She was a rather tall young woman with a calm, cool manner. She had big, quiet blue eyes. Under the young woman's scrutiny, Polly lost her confidence. She stammered.

"Yes, I know," Miss Grant said quietly. "I read about it in the paper." She smiled a little. "I wasn't surprised. I knew all along he was that sort of boy."

"Well, I'll take you to him," Polly said, and the two girls, followed by Mulville, went to the house to which Artie had been taken. At the front gate the young woman thanked them and ran up the walk, leaving them gazing after her.

"Well, she's a cool piece of work, isn't she?" said Mulville. "Who is she?"

"Artie said he was going to marry her," Polly said. "He thinks she's a queen. You remember that night he was in the store? Well, he bought a box of our best candy to send to her, and he told me to send her a box every day. It costs a dollar a box."

They walked a little way in silence, and then Polly began to laugh.

"That's his girl," Polly said, shaking at the recollection of Miss Grant's beauty and her elegance. "And you thought he was making up to me!"

"Well," said Mulville humbly, "you're worth a million of her, Polly."

Polly's laughter died away. She was so glad that her big lover had been taught a lesson — that his distrust had been killed—that she did not deny the truth of what he said.

Being a Boomer Brakeman.

BY HORACE HERR.

EVEN though the oldest railroader may deny it, superstition does exist in all branches, as many of our writers have shown. It even exists on the Arizona In and Out System, that marvelous road which is the basis of these interesting stories by Mr. Herr. Accidents, too, were not without place on the In and Out, and some of the boys with whom the boomer worked met death in the most startling manner, but not without the courage that is never found wanting in every good railroad man.

The In and Out System is certainly a marvelous line. Any young man getting a job there certainly goes through the paces, and should certainly know something when he gets through with it.

4.—HARD LUCK ON THE IN AND OUT.

How Some of the Boys Take Long Chances and Are Called on the Carpet or Get their "Brownies" by Bluffing the Old Man.

MY friend, Hen Murray, fireman, was the real goods. He was there with the strong back, the bald head, and the bulldog disposition. I am reminded of the fact that he was a great favorite with all the hog-heads on the Arizona In and Out.

He was a big bully, with shoulders like the broad side of a box car, just as good-natured as a pup until some one stroked his fur the wrong way, and then there was generally something doing. I knew him for years on the pike out there, and never heard a complaint against his work; and he finally caught up with the tinware on account of his ability to hit a man solid on the jaw.

Hen could put the Gallup coal against the flue-sheet on any of them, and he generally kept the feather on the stack, no matter how the hog was steaming. For that reason the Old Man gave him more than one good grilling on the pan before he finally put the derrick on him.

The first battle he cornered was with an engineer named Scully. I was there

THEY MADE SEVERAL LAPS OVER THE CAKE STAND.

—or, rather, I was there when it started—but was among the "also-ran" class. Scully was big and Irish, and fought like a bull-terrier for a bone.

It was my first night in town, and Hen was showing me around when he ran across Scully. Never mind how it happened. He beat Scully in about twenty minutes, and they say it was worth watching. They both had served some time in Uncle Sam's navy, and knew a few things about this "hit-and-get-hit" game.

Worth Watching.

But the battle which lost Hen his job was over in the eating-house. We went in there one night after a hard run, both tired out and mighty hungry. Hen ordered two-bits' worth of grub, and I took on thirty-five cents' worth of fuel. In dishing out the checks the hash-slinger got them mixed, and gave Hen the thirty-five-cent check. Hen kicked, and that waiter called him something which might be construed to mean that he was a total stranger to the pure and simple truth.

He hadn't any more'n got it out of his mouth than my fireman friend was over the counter and into him. That was worth watching, and I stayed to see the finish. They made several laps over the cake stand, and every time around down would go a pie or a cake until that floor was a fright.

It looked like a dining-car after a collision. Finally Hen caught up with the waiter and hit him so hard that he knocked him through the swinging-doors into the kitchen. Then old "Oom Paul," the cook, broke into the game and hung a heavy silver sugar-bowl over Hen's bald cupola and got away with it.

Murray couldn't catch him, but he chased every one out of the house, and then put a teacup through every picture on the wall. The next day the Old Man sent the call-boy for him.

"I don't object to your hanging one on a fellow now and then; but when you go to breaking up the furniture, it's too much—here's your time."

That's about all the Old Man had to say. Two hours after he had fired him, he was ready to hire him over again; but Hen wouldn't stand for it, and returned to his native hills and the familiar clang of the street-cars in Kansas City, and I

was left sad and lonesome without my old bald-headed pal.

Things began to look as if a strike was coming on; and I was thinking of dragging it myself, when bad luck caught up with the division, and I wasn't slow in taking my running orders for another job. I say bad luck caught up with us, and it did in several ways.

Got His Running Orders.

One day I made a little trip on a speeder over to Hardy. Just as I got there I broke the handle, and there was nothing to do but flag a train and get back. The first thing along was Lengthy Thompson, and he picked me up on a light engine.

We loaded the speeder on the pilot, and I climbed up in the cab; and we talked and kidded until we landed on the coal-track at the terminal. I went home that night, and the next morning when I wandered down-town I met a little group at the reading-room, and this is what greeted me:

"Hear about Thompson?"

"No; did he get canned?"

"Worse than that. Got the big works over at Seligman last night."

"You don't mean—"

"Yes, killed. Two engines run him down in the yard, and they picked him up in the scoop; and you know he has a wife and three children."

Meeting the Grim Destroyer.

That was a blow! Thompson, the best old hog-head on the division, gone the route over the big trail! Then, three days later, Joe Seegar was cleaning the ash-pan at Ash Forks. His engine was the head engine on a double-header.

Just as he was climbing out between the drivers, the second engine moved them forward a bit and caught his arm. Two days later came the Franconia wreck, which put the gloom-cloud over the entire road.

A double-header passenger coming up the mountain and a single-header passenger coming down, oil-burners and running like the wind, came together head-on. Seven were killed; two of them I had known for three years as near friends.

It was just a week after that that the limited hit Currin with a light engine at a station on the second. That wreck taught me the dangers of riding the blind; for when we went out to pick up that wreck we found a hobo, mashed to the thinness of a board, between the blind of the baggage-car and the rear of the tank.

A few days after that Stronick was killed at the Little Colorado Bridge. That was about the most pathetic happening which ever came to my notice while railroading. Stronick was a fireman for little John Brisco. He had not seen his family for five years; and that night he had traded off with another fireman so that he could catch the run into Gallup, in time to meet his only sister there and surprise her.

When Stronick Died.

She was coming to pay him a visit. The funny part of it was that I was down at the depot that night when the passenger-train pulled in. I saw the tail-lights of the engine down below the cut-off switch and walked down that way in the dark.

On the way the thought flashed through me that this might be the last trip for these fellows; you can never tell. I went down and hung around the engine for fully fifteen minutes, and watched Stronick fill the lubricator and Brisco oil around.

Then, as I left them, I called out: "So long, boys! Be sure you don't let that old hag roll on you this trip."

They both laughed, and Brisco remarked that he guessed it wasn't their time yet. Just the same, twenty-five minutes later Stronick was dead.

Jack told me that they were a little late when they pulled out that night, and Stronick started to keep her at white heat. Jack noticed him step to the gangway just as they were nearing the bridge; and then, when they were over the bridge, he noticed he was gone.

Brisco stopped at once, backed up, and every one on the crew knew without looking what had happened. Brisco went down under the bridge with a torch, and there he found Stronick's body. He had evidently leaned out of the gangway and

hit his head against a girder. It was the old, old story.

Shortly after that Henderson had to quit the road, and Hinkley Reynolds left too soon after—died from nervous trouble, which the doctors said was induced by fast running. Henderson was suffering from locomotor ataxia, and had a precarious existence; and "Doc" Seagondollar ran into a washout on the cañon branch which all but got him.

Under His Engine.

There was little romance in that accident, too. It was one night after a heavy rain, and the cañon-track was none too good at that. Doc hit a bad bridge and went down, and of course he was under the engine.

His legs were pinned so that he couldn't get away, and the water was running several feet deep in the ravine. He kept his head above water until help arrived; and, as the passengers began to climb out to see what trouble had overtaken them, a young lady doctor made her way ahead.

She was a game one, all right. She waded through the water and mud, and held Doc above water for six hours until the wrecker reached the scene. Yes, that's just what happened. He really married her, so I hear. About a month after the wedding he got the big works over on the first.

That month of bad luck brought me to the place where I thought less money and a longer life would suit me just as well, and I began to look around for a good chance to quit. Then I caught up with forty hours on the second division one night behind Finney's wreck at Pinto, and when I got in I asked for my time.

The Road Saves Money.

Finney went out that night with about ninety cars, and that was the cause of it all. You see, the roads keep getting bigger engines with a greater tonnage capacity. They crowd the engines to the limit; but keep the same sized crews on the trains, so that to-day in many cases one crew handles as many cars as three crews did ten years ago with the smaller engines.

The result is long trains; and, if everything goes nicely, the road saves money. But when an engineer runs foul of trouble and has to slap on the emergency on one of those big trains, it's all off.

That night Finney had a new engineer, and, coming into Pinto, he saw a taillight in front of him. He gave that long train the big hole. Five drawbars was what he got; and then he failed to stop in time, and went into the tail end of that light engine, which was taking water at the tank on the main line.

It was an all-night job to clear that wreck, and we were behind it. That was enough for little William. I knew that it was only a question of time until the machinists and boilermakers would be striking and there would be hard times on the In and Out, so I got away first, firmly determined that I would never draw another switch-key or brakeman's badge.

But I did; and I was mighty glad to get the chance, too, even though I had a full-blooded Mexican as a braking pardner and a greaser for a hog-head.

Wrecks Run in Threes.

That reminds me that a railroad man is a bit superstitious. When a stinger feels the air go on with a jerk and sees all the loose furniture in the caboose doing a vaudeville stunt, before the train has reached the first station out from the terminal, he knows he's in for a bad trip, and he seldom is wrong.

He climbs out of the caboose on the shady side of the train and over near the head, and he sees the spot where the sun shines through. Then he knows that the train is broken in two. He walks over that way, and it's a ten-to-one shot that he has to lug a chain or carry a knuckle before he's ready to climb back on the caboose; and when he has once chained them together he sits up there in the doghouse, waiting for the trouble which he knows is going to come sooner or later.

When the railroad man walks down to the roundhouse in the morning or goes over to look at the train-crew board, and finds out there has been a bad wreck during the night, he nods his head in a knowing way and begins to look out for the two more which he feels certain are close. Wrecks—bad ones—always run in threes.

They do now, so there's no use in arguing that they don't.

There was the Franconia wreck, followed by the limited wreck on the burned bridge near Flagstaff; and that was followed a few days later by the Chandler head-ender, which cost three lives. Then things went smooth for six months; and then came three more, which cost one life each, not to mention the loss in rolling-stock.

SHE HELD DOC ABOVE WATER FOR SIX HOURS.

And a real railroad man never makes his last trip. That's the dope. Any time an old railroader catches himself saying, "I'm going to lay off after the next trip," he don't wait for the next trip; he goes right in and lays off then, for a lot of men who have been going to do things after "the next trip" are now residing in quiet, out-of-the-way graveyards, as the result of an accident on the last trip.

So, when I decided that I wanted to break out of the game, I didn't do it after the "next" trip. I just decided and went in, and asked for my time.

With every one advancing so much free advice on how to run the universe, and railroads in particular, I guess a common stinger has a right to hand out a generous package of cheap advice along with the rest of them. It's a peculiar fact that you can always find a greater number of men outside any profession who can run the said profession than you can discover among those who follow it and make it a life-study.

I know of at least a dozen prominent men who don't know a link and pin from a hook and eye who are using up a great deal of valuable space in telling the railroad magnate how to run his business. I'd like to see some of that brand running a full-grown railroad once; they'd find out in short time that they really haven't the proper qualifications for collecting fares on a mule-car.

Giving you the real inside dope from the outside and making a composite argument from the column of talk which I have heard at one time or another around the watering-tanks and switch shanties, I would say that the greatest danger—from a matter of safety to the general public and of the employee as well—is the unwritten rules of all railroads, the "common law," if you can so dignify it.

Some Inside Dope.

Every road in the United States has a written code of standard rules. Every employee in train and engine service must know these rules as well as he knows his A, B, C, but it's been my observation that the fellow who never violates one of those rules is the guy who is always looking for a job.

Every road puts out special orders and rules to cover extraordinary conditions on their pike, and these must not be violated—but they are! When you hear some division superintendent praising a conductor for getting over the road in short order; you can always put it down in the blue book that the conductor is lucky and is getting away with some long shots.

I am reminded of "Hard-Luck" Strenk, of the In and Out, in this particular. He never broke a rule in his life because he didn't know enough, and every pay-day the Old Man used to say that half of his check was made while he was on a siding. He never would get over the division on time, because he tried to clear every superior train by five minutes; and if he couldn't do it, he would stay in the clear just wherever he happened to be.

I have started out on a drag of cars, six hours behind that fellow, and beat him into the terminal by two hours, all because I had a conductor who took chances. When you take the chance and get away with it, you're a good railroad man; when you take the chance and fall down on it, if you don't play the principal part in a tragedy, you get a large piece of hardware tied to you and go out to hunt a new job.

Make the time, get over the road, that's what you have to do if you're going to keep your full name on the pay-roll; and you're expected to know that the standard rules are there just to keep the company in the clear. Here's a few things a good railroad man does every day of his life which are against the rules on almost all roads:

He will flag against trains; he won't clear by five minutes if he knows he can make a station by the leaving-time of a superior train; he won't brake the air-hose before he cuts off a car; he won't shove a car into the siding when he can kick it in just as well; if he's on a local, he'll run ahead of any old train, any old time, any old way, to get over the ground, and he gets away with it ninety-nine times out of a hundred.

It's the hundredth time when he don't make good that gets box-car letters in the newspapers.

When you take a chance, and the Old Man wants to know about it; when you fall down running ahead of the varnished cars and lay them out for ten minutes, of course you are supposed to have an argument more unique than logical. If you can't talk fast, you are supposed to take the "Brownies" without talking back and promise to be a good boy.

Fooling the Old Man.

I'm reminded that Dennis Duleay illustrated the point very finely one morning when the Old Man found him going out on a drag without his conductor's badge on his hat. The Old Man made a bluff at being angry at such a flagrant violation of the rule-book. He walked up to Dennis, who was signing the register, and this is what followed:

"Dennis, where's your badge?"

"It's on me hat."

"It's not on your hat."

Dennis put his hand up to the front of his hat where the badge should have been, grinned at the Old Man a minute, and came back:

"Sure, it's on me hat. I have two hats."

And it's the same sort of an argument which gets a man out of trouble when he violates the rules in the interest of the company.

In the next issue, Mr. Herr's stinger ends his brief but exciting railroad career and breaks out of the game for keeps.

THE DAUGHTER OF THE IDOL.

BY JOHN MACK STONE.

A Trick Fails, but a Secret Call for Help Brings an Encouraging Answer.

SYNOPSIS OF PREVIOUS CHAPTERS.

ROLAND BURKE is a young boy sightseeing in San Francisco during a visit to his uncle, Richard Engle, a famous explorer. While standing on the dock he is alarmed by a crowd of struggling men rushing down the street, evidently pursued by the police, and in his astonishment is hustled into the boat for which they are making. One of the men, who is struggling with the others, is kidnaped onto a vessel, and Roland, though unobserved, is also unable to escape. The ship puts out, defying the forts. On the boat he is discovered by Ruth Holland, who also seems to be there against her will, and who seems quite familiar with Richard Engle, though there seems to be some misunderstanding between them. In her cabin Ruth is annoyed by a man named Welch, who seems to have some power among the cutthroats. Engle interferes.

Captain Hawson interferes against the persecution of Engle by Welch, and Welch shows his power by deposing the captain and making him a prisoner. The captain joins forces with Engle, the boy, and Miss Holland. They attempt to recover the ship.

CHAPTER IX *(Continued.)*

The Last Cartridge.

"I SAY you haven't one left," Welch replied. "Why lie about it?"

"Well, what do you want with us?" the captain asked.

"There is a certain ceremony to be performed. The boy there touched the aitu, it seems."

"What do you mean to do?" my uncle cried.

"I mean to do what is usual in such cases."

"Would you murder a boy?" the captain demanded.

"It is not murder, but an execution, according to certain laws," Welch replied. "You forget that the believers aboard know what happened."

"And you expect to win them for yours more firmly by murdering an innocent boy?" Uncle Dick said.

"It is according to their law," Welch replied.

He motioned for the man with him to enter the cabin, and the fellow stepped forward. But Captain Hawson grasped him and hurled him back.

"You do not enter here," he said.

"Stand aside! We want that boy!" Welch commanded.

"I will not stand aside and let you commit murder."

Welch turned and called out. Others came running down at his call. He talked to them quickly in their strange tongue.

They rushed the door of the cabin, and it was all over in a moment. I felt myself grasped roughly, saw Captain Hawson and Uncle Dick made prisoners, and their hands bound behind them. Then we were led to the deck.

Miss Holland was there, and her eyes filled with tears when she saw us. Evidently she knew the fate in store for me. I felt my courage going, for it seemed that there was nothing but death to expect. Was I to die without knowing why, without knowing what all the strange things I had witnessed meant?

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They led me to the mast, and fastened me there securely. The captain and Uncle Dick were held some distance away, facing me. One of the men drew from beneath his coat a long knife, double-edged and as sharp as a razor. He tested the edges on a hair.

Welch stood a few feet before me.

"Go on with your work," he instructed the man.

"I dare not until the word is given," he replied. "Only you, master, can give the word."

Welch's face went white. He was willing to countenance murder, it seemed, but disliked to give the word himself.

However, it was a crucial moment for him, for the eyes of the fanatics were upon him, and if he flinched or hesitated he would be lost. He faced me again, but would not meet my eyes.

"Get ready," he instructed.

The man before me lifted the knife. I gave Uncle Dick one look, saw him start forward, and saw him forced back. I glanced at Ruth Holland, but she had turned her face away.

"I am ready, master," the man said.

I saw Welch's mouth open. He was ready to speak the word that meant death to me, but before he could do it Ruth rushed across the deck and threw herself upon me before the knife.

"You do not dare harm me," she said; "and you can strike this boy only through my body."

The executioner uttered a cry and fell back. Welch cursed and sprang toward us, his face livid. He grasped Ruth by the arms and forced her away from me.

"You coward!" she cried. "You have not even the courage to do your own dirty work. You force ignorant fools to do it for you."

"Have I not?" he screamed. "I'll show you, then!"

He seized the knife from the other man, and sprang toward me.

"I'll play at executioner myself," he cried, and raised the knife.

Then there came a flash and a report, and Welch dropped the knife and staggered backward, clutching at his breast. Looking beyond him, I saw that the captain had wrenched himself free, and held a smoking revolver in his hand. He had told Welch the truth, then.

He had saved one cartridge—and had made use of it!

CHAPTER X.

Some Things Are Explained.

FOR full a minute the picture remained unchanged—I lashed to the mast, Miss Holland standing near me, Welch lying upon the deck, the blood streaming from a wound in his breast.

Uncle Dick and Captain Hawson stood like statues. Behind them, the members of the crew were motionless, their eyes wide with horror.

Then there was a scream such I had never heard before. The rage of the fanatics was terrible to see. Captain Hawson and Uncle Dick dashed toward me, bringing Miss Holland with them; and at the foot of the mast we huddled, waiting for the death that we felt would surely come.

There was a quick rush toward us; and then the one who had acted as spokesman stopped the men with a word of command, and stood between them and us.

He began to speak rapidly in their strange tongue. At first they answered him with loud cries of anger, but gradually their anger cooled, and they seemed to agree with him.

They put up their weapons and came on toward us, but not in rage and anger as before. Two of them stooped and lifted Welch and carried him below. The others came on, and stopped a short distance before us.

"We do not understand this business," the spokesman said. "It seems that there is trouble of which we know nothing. We do not know whom to trust. This matter is beyond us. We have decided to make all of you prisoners below, to carry you to the island, and there let some one higher in authority decide the issue between you. No violence will be shown you so long as you remain in your cabins."

Then he stepped forward, pushed Uncle Dick to one side, and unbound me. They led us below, two men guarding each of us, and took each to a separate cabin.

On the tenth day I spoke to the one who acted as commander.

"I am lonesome," I complained. "Cannot I speak to some of the others?"

"It is too dangerous," he replied, smiling.

"Cannot your men watch us?"

"The risk is too great. There must be no more trouble until we reach the island. I can take no more chances."

"Is Mr. Welch dead?"

"He is still alive, and, with proper care, will not die."

"I wish you'd let me speak to at least one of the others," I implored. "Let me speak to Miss Holland."

Perhaps there was something in my face that made him pity me. At any rate, he called one of the men and issued orders, then turned to me.

"You may speak to the woman for an hour," he said, "but you must be careful what you say."

"Thank you."

In a few minutes Miss Holland came on deck, and we sat down on a coil of rope near the rail and began to talk softly but earnestly.

She knew no more than I of what had transpired since we were made prisoners. Her face lit up when I told her that Welch would live.

"You want him to live?" I asked. "Perhaps he is a great deal to you. Tell me, won't you?"

"I detest him," she replied.

"Then—"

"If he should die, it would mean added danger, that is all," she said.

"I wish you'd tell me something about this business."

She did not reply for a time, but looked out at the sparkling sea. Then she turned toward me.

"I'll tell you what I can," she said. "Your uncle, as you know, is a traveler and explorer. He has visited all parts of the world, including some lands where few white men have ever been. I first met him in the land to which we are going now."

"Where is that?" I asked.

"It is an island in the South Sea. There is a peculiar race of fanatics that lives there. They worship a great aitu, or idol. They have a very peculiar form of worship, and peculiar laws. In their principal village is a great temple, and this temple is the home of the king aitu, of which all others are copies.

"It is forbidden that any one not a believer watch one of the religious ceremonies. It is death to touch the aitu, for they think their god defiled if touched by any one except the priests.

"I heard of this strange people once while I was in Honolulu, and determined to visit the land. My uncle placed his private yacht at my disposal, and I made the voyage. Mr. Welch, whom I had known for some time, was anxious to accompany me, and I allowed him to do so.

"When we reached the island, the people attacked us and made us prisoners. They had never seen a white woman before, and their high priest, who rules the island, spared my life. Welch was spared, too, but was to be sacrificed at a certain time, on one of their religious anniversaries.

"Your uncle came to the island about this time in a small schooner which he had chartered for the purpose. He, too, was made prisoner. We saw a great deal of each other, and we—we learned to like each other very well.

"That did not please Mr. Welch. In some manner he convinced the high priest that he believed in the power of their aitu, and wanted to be made one of them. On his breast there is a great scar. That was what he received during the ceremony that made him a believer.

"When he recovered from the effects of the ceremony, he was made a priest, because of his wisdom it was said, and immediately began to make himself popular with the people. They gained confidence in him, and allowed him to come and go as he pleased.

"Then he told the high priest that the aitu had commanded that I become his wife. At first he tried to force me to agree, and when he found that the people loved me, he tried another method. He told them that I was to be asked each night at midnight until I consented, that when I consented and the ceremony was performed, the aitu would become possessed of even greater power.

"And so the persecution began, and continued. My constant refusal angered

Welch, and he began to think that it was my love for your uncle that caused me to refuse. He planned your uncle's death.

"There was a great ceremony in the temple one day, which your uncle attended under escort, and during the ceremony Welch contrived to have Mr. Engle touch the aitu. The moment he did so, he was doomed.

"The day for the execution was set, and the ceremonies began. One night I slipped away from the temple and went down to the shore. There, in a large cave, the crew of the yacht were held as prisoners, all under sentence of death. I succeeded in drugging the guard and liberating them, together with the crew of the schooner in which Mr. Engle had journeyed to the island.

"Then I hurried back to the temple. Welch and the other priests were holding a midnight ceremony. I had thought that Welch had turned fanatic; but something in his manner that night told me that he was carrying out some plan, and working on the fanaticism of the people to accomplish it.

"I tried to reach your uncle, but could not. In the morning the yacht and schooner set sail, the men knowing that they would be recaptured if they remained near the island.

"Your uncle and I had a long conversation that day, and during it we confessed our love for each other. I told him how the sailors had been liberated, and said that the yacht would return that night to make an attempt to liberate us.

"Both the yacht and schooner returned that night, and the men landed, heavily armed. They fought their way to the temple, and, after a hot engagement, succeeded in setting all of us free. Then, in spite of your uncle's entreaties, the men, under the command of Welch, looted the village and the temple. In the excitement we all became separated. I got safely aboard the yacht, and it sailed away.

"Your uncle escaped in the schooner. In the morning, when the battle was over and we were gone, the fanatics found that Welch remained with them, wounded, and that the great king aitu was missing."

"It had been stolen?" I asked.

"Yes, it had been stolen," she replied. "The fanatics were crazed. Welch told them that unless the aitu was recovered, and the people who had stolen it were put to death in the temple, famine and distress would engulf the land, and there would be no eternity for those who died. He told them, too, that it was necessary that I be recovered and made to wed him.

"They secured this ship, for Captain Hawson would do anything for money, and began the search. Welch went along to help. I was made prisoner while living at a resort in southern California, four days before they seized Mr. Engle. And now they are taking us back, your uncle to his death, me to something worse.

"There will be no help for us when we reach the island. Captain Hawson will be executed because he shot Welch, a priest. Welch will see that your uncle meets death, for he hates him; and he has made the fanatics believe that it was your uncle who stole the aitu. You are doomed too, poor boy, because you touched the aitu."

"But Uncle Dick did not steal their god," I said.

"No, he did not! He thinks I stole it," she replied.

"But you did not!" I exclaimed.

"No, I did not."

"Who did, then?"

"Welch stole it."

"But he was playing as one of the priests, and he remained behind when you sailed away."

"He had the aitu carried aboard the schooner by some of the sailors," she explained, "and expected to escape in that himself. If you look closely at the aitu when next you see it, you will find that it is very valuable, made half of solid gold, with precious gems set in it.

"After getting the aitu on board the schooner, Welch returned to get more loot, and was wounded and left behind in the excitement. We on the yacht thought he was on the schooner; those on the schooner thought he was with us.

"As soon as he could, he followed us, to regain possession of the aitu and to have his revenge."

"How did he find the aitu?" I asked.

"It was in the customs house at San Francisco. When your uncle found it aboard the schooner, he left it with the authorities, told them what it was, and that some one would undoubtedly come for it. Welch secured it by paying them a lot of money.

"He thinks to return it, and that the people will make him high priest for doing so. Then, when he gets a chance, he will loot the temple again and carry away much wealth."

"And why is it that my uncle is angry at you?" I asked. "You have not explained that. You say that you confessed your love for each other, yet you will scarcely speak to each other now."

"Do not ask that of me now," she said, the tears coming into her pretty eyes. "I'll tell you, perhaps, before we reach the island."

I looked up and saw the spokesman coming toward us across the deck. Miss Holland began talking of the weather and the sea. He stopped before us.

"It is time for you to go below," he said. "The others must have their hour."

We arose and started across the deck. Our guards came toward us.

"May we speak to each other again to-morrow?" Miss Holland asked. "It is such a comfort to talk to any one, even a boy."

"Perhaps; we shall see," the man replied.

That was once I didn't mind being called a boy. I saw the method in her words.

CHAPTER XI.

Captain Hawson's C. Q. D.

THAT night I thought of what Ruth Holland had told me. The future indeed looked dark. There seemed nothing but death to expect, and a terrible death at that, for I knew such fanatics would not stop at a merciful execution. They would perhaps torture us.

I wanted to see Uncle Dick. Again and again I tried the door, hoping that the guard had forgotten to lock it, but always I found it securely fastened.

It was after midnight when I started across the cabin toward my bunk, determined to try to get some sleep. As I lay down I heard a peculiar noise that seemed to come from the wall adjoining my cabin on the right.

I sat up in the bunk and listened. The noise was a series of short, light crashes that occurred irregularly. I did not know what it meant.

I crept from the bunk, went across to the wall, and put my ear against it. The noise continued, then stopped for a time, then began again. And then there was a different noise, similar but not as loud, and with more of a ring to it. When that began I heard a short cry of pleasure come from the person in the next cabin.

I waited until the noise ceased again, then knocked on the wall. There was absolute silence for a time, then I knocked again. At once my knock was answered.

I replied to the signal, and then all was quiet again. Once more I tried the door. It was still securely fastened. By peering through the keyhole I could see one of the men pacing back and forth in the passage, guarding the cabins.

I ran back to the wall again, and made the signal. It was repeated, and I heard some words, but could not distinguish them nor recognize the voice. Then terror seized me, for I was afraid the person in the next cabin was not a friend.

Then I noticed a tiny hole, and working in it was the point of a knife.

I sat back some distance and watched it, fascinated. The hole grew larger rapidly, the knife cutting great strokes in the hard wood. This was not a foe, then, for a foe would have no need to whittle a hole through the wall.

I crept nearer, for the knife was in the hole no longer, and looked through. There was Captain Hawson standing beside the table in the middle of the cabin, looking ruefully at the dull edge of the knife. I stooped lower, and whispered.

"Captain Hawson!"

He dropped the knife and came over to the wall.

"Who is it?" he demanded.

"Roland."

"Was that you knocking on the wall?"

"Yes, sir."

"I was not sure," he said. "Have you a knife?"

"A small one, sir."

"Use it," he directed. "Carry the shavings carefully to one corner, and in the morning throw them through the port-hole into the sea."

It seemed to take hours to make the hole large enough for me to crawl through. My hands were blistered and my knife-blade worn out, but still I worked away. Captain Hawson chopped at one side of the panel, and presently removed it, and there was space for me to crawl through and stand beside him.

"We must fix this hole first," he said.

He put the panel back in place, scraped the shavings together and placed them under his bunk, and then backed a chair against the hole, with a blanket over it, and sat on the chair and put his feet upon the table.

"If any one should come," he said laughing, "I am merely making myself comfortable."

"What are we going to do now?" I asked.

"You are wondering why we worked so hard to get you in here?" he asked. "Because I want you to listen at the door while I do some more work. I was trying to do it alone, but it was hard, for I was always afraid of being discovered. Now, with you on guard, I can work as I will."

"But what are you going to do?" I asked. "And suppose the guard enters my cabin and misses me?"

"Never consider trouble until it comes," he said. "Go to the door, and warn me instantly if you hear any one stop before it."

As he spoke he hung his jacket over the key-hole, so that no one outside could look in. Then he stepped to the wall of the cabin, took a tiny key from his pocket, and inserted it into what looked to be a worm-hole in the wood.

My eyes bulged when a large panel swung outward, disclosing an alcove six feet square, and as many feet high. In the alcove was a lot of machinery which I did not understand.

"What is it?" I whispered.

Captain Hawson smiled.

"A man who follows my trade, which, I may mention, is anything that starts with a ship and ends with money, must always be prepared for emergencies. I am a man who runs into all sorts of dangers. A year ago I had this secret alcove built into the cabin, thinking that some day I would need it. It proved a good investment.

"You notice that this ship has a wireless telegraph plant installed? It is operated, of course, from the wireless room forward on deck. The men aboard know that, but they do not know that here is a subordinate plant and keyboard, from which I can work the apparatus.

"The ignorant men aboard, if they hear a crash now and then, and see a spark, believe it is some incoming message being recorded, instead of my message being sent. Welch is the only man aboard, save your uncle, who would know the truth, and make an investigation. And Welch is wounded and in a cabin on the other side of the passage."

"Then you are calling for help?" I asked.

"I called and got an answer some time ago, just as you knocked on the wall," he said. "With you here to watch for interruption, I can call again, and perhaps accomplish something. Stand beside the door, Roland.

"If any one comes, give me the signal and go beneath the bunk. That will give me time to close the panel and get into the chair. I hardly think we'll be bothered, though, before daylight."

I stood beside the door as he directed, and he went into the little alcove and put the harness on his head, and sat down before the keyboard. Then the dots and dashes began again. He would call, then wait—call, and wait.

Presently there came a tiny flash and crash in reply, and he looked around at me, and smiled. Then his fingers flew to the key again, and he tapped out his message.

"Some one answered you?" I asked.

"The United States cruiser Milwaukee answered me," he said, smiling.

"She is on our trail, anyway, for we left the harbor of San Francisco under peculiar circumstances. When we are caught, I will have to answer a multitude of questions, but I can tell a story

that will help clear me, and perhaps your uncle and Miss Holland will help."

"You may be sure they will, sir, if we get out of this alive," I replied.

"The cruiser cannot overhaul us before we reach the island," he said. "I was unable to give our location, of course, but I gave them the location of the island, and the cruiser may arrive in time to save us. I wish I could get word to the others."

"They allowed me to speak to Miss Holland this afternoon, sir," I said, "and perhaps they will again. I can tell her."

For a moment the captain did not reply. I could see that he was thinking out some plan.

"If you talk to her again," he said, "tell her that I have sent out a call for help, and tell her that she is to do everything in her power to gain time when we reach the island. There is a way she can gain time—if she will.

"They want her to marry Welch, who is one of their priests. Welch is wounded and cannot be married for some time, of course. From what one of the men told me to-day it will be two weeks before he will be able to stand alone. My bullet almost found a vital spot.

"Tell her to agree to become his wife as soon as he is well. That will please them, and they will begin their ceremonies. She must agree only on condition that there is no execution until after the wedding ceremony is performed. And tell her that she must demand all the rights which will be hers under their law."

"What rights, sir?" I asked.

"A maiden, who is to become the bride of a priest of the aitu can prevent the execution of a condemned person."

"Then she can save us?" I cried.

"She can save—*one of us?*" he answered.

CHAPTER XII.

Tricks and Counter-Tricks.

THERE came a knock on the door, and the sound of a key being turned in the lock. I hurried beneath the bunk, and Captain Hawson dropped a blanket to hide me, then hurried across to the chair and sat down with a paper in his hand.

The door was thrown open, and one of the men entered. He looked at the captain, looked round the cabin, then went out again. We heard him call out something, heard the call repeated by some one else, and in a minute the leader of the fanatics came into the cabin.

"The guard says he heard voices," he said.

"I can't help what he heard," the captain replied. "Perhaps I was reading aloud."

"He says he heard two voices."

"Perhaps there is something wrong with his ears," the captain answered. "I wish you wouldn't bother me when I'm trying to read."

The man looked round the cabin swiftly. There was a puzzled expression on his face.

"It is very peculiar," he said, and went out again.

Perhaps he thought there was indeed something the matter with the guard's ears, for he made no further investigation. I lay in fear that he would enter my cabin and miss me, but he did not. He hurried back to the deck. The steamer was pitching terribly, and it was evident that the presence of the commander on deck was necessary.

We waited for a time, then I crept back to my own cabin, and once upon the inside covered my side of the hole in the wall as best I could. Then I threw myself upon the bunk, and fell asleep.

The guard awakened me in the morning, bringing my breakfast. After eating, I spent the hours anxiously, waiting for the afternoon to come, and with it the possible conversation with Ruth Holland.

My hour came finally, and I was taken on deck. Miss Holland was not there, and I refrained from asking about her, for fear the commander would think me too anxious to speak to her. Before I had been on deck half of the hour, she was brought up, and came toward me with outstretched hands, and smiling.

"How do you feel to-day?" she asked.

"Very well, thank you," I replied, and then we talked of ordinary things

for a time, until the guard grew less cautious and stepped some distance away. Then I told her what the captain had instructed me to say.

I explained how he had called the United States cruiser, and what messages he had sent and received.

"He says you are to agree to marry Welch," I told her, "on condition that there is no execution before the ceremony, because you do not want the festivities marred by any bloody work. You are to gain all the time you can, and as a last resort are to demand your right to free some condemned man."

For a time she sat in silence.

"Captain Hawson says Mr. Welch is badly wounded?" she asked.

"The guard told him he would not be able to stand alone and get about for at least a fortnight," I replied.

"Then I think that the plan is a good one," she said. "Tell Captain Hawson that I'll do my best."

"Is there anything I can do to help?" I asked.

"Nothing, I believe. They will come to me at midnight, as usual, and this time my answer will be yes. There will be a betrothal ceremony immediately, of course. I think all of you will be forced to witness it.

"There is one thing— If only you could let your uncle know that I am playing a game, and am not sincere in promising to marry Welch!"

"Perhaps there'll be a chance for me to speak to him," I said. "I'll tell the captain, too, and between us we ought to get word to him."

We talked of other things then, and presently the guards took me back to my cabin, and Miss Holland remained on deck to finish her hour of liberty.

The evening passed slowly. I heard no signal from the captain's cabin, and did not make any, for he had told me to make no sound until he gave me the word. I wanted to tell him how I had succeeded with Ruth Holland, but did not want to disobey his instructions.

It must have been nine o'clock at night when he rapped on the wall and I ran across the cabin and pulled the draperies away from the hole. He dropped the blanket on his side, and put his head down.

"What did Miss Holland say?" he asked.

"She will do as you request, tonight," I answered.

"Good girl!" I heard him say, and then his head disappeared and he told me to cover the hole again.

From then until midnight I listened beside my door, listened to the guard pacing back and forth in the passage. At midnight I heard several men come down from deck, and there was a knock on Miss Holland's door. I heard her voice as she bade them enter, and heard the door close.

What passed there, I do not know, but in a few minutes the men came into the passage again, laughing and chatting, and some of them singing their peculiar chant.

They went away, and half an hour later they returned, and went into Miss Holland's cabin again. Then there were more voices, more laughing and chanting and the sounds of many people going through the passage.

Another half-hour passed, and then the door of my cabin was unlocked, and the spokesman entered.

"Get up, boy, and come with us," he said.

I left the bunk and stood in the middle of the cabin, fearing.

"There is nothing to fear just now," he said, not unkindly. "Since you are already doomed, you are privileged to witness all ceremonies. We are about to hold one."

One of his men took me by the arm and led me into the passage. There I found Captain Hawson and Uncle Dick. The captain was trying hard to hide his pleasure, but found it difficult. Uncle Dick's face was a study; he did not know what to make of this midnight ceremony.

I stepped as near him as possible.

"Uncle Dick," I whispered.

"Yes, Roland."

"This—" I began, and then stopped, for my guard had pulled me to one side, and the spokesman was glaring steadfastly at us.

"You must not talk to one another," he said.

He said something to the guards, and we were taken down the passage, sev-

eral yards apart, and led into the cabin where the aitu sat upon his throne at the head of the flight of steps.

There were candles burning before the idol. The draperies were thrown back, and on the steps leading up to the god was a wide carpet of some yellow material. Two of the fanatics were dressed in peculiar yellow robes. One of them was burning something that gave off a pungent odor.

But the principal attraction for me then was pretty Ruth Holland, dressed in a yellow robe of silk, her black hair flowing across her shoulders, her brow bound with a golden cord. Her face was pale, and I thought that, as she looked toward Uncle Dick, there was a message in her eyes which, it seemed, he could not, or would not, read.

The spokesman walked up the steps and addressed the aitu in the foreign tongue, and placed a small gold pan before the god. Then he descended the steps again, and turned to us and spoke in English.

"I have ordered that you be present at this ceremony, which must be celebrated in public," he said. "It will perhaps be a diversion for you after your long incarceration. In consideration of this, you will refrain from speaking to one another.

"I have addressed the aitu, and the ceremony will proceed. It will be read to you in English, so that you will understand."

Then he addressed the aitu again in that foreign tongue, and after each speech he translated into English. That was for my benefit solely, for Uncle Dick and Captain Hawson could understand their peculiar language.

"Great aitu," he cried, "we come before you and kneel at your feet this night to bid you welcome one who is to grace your temple. She is before you, great aitu, dressed as is becoming one who is to be the bride of a priest.

"Look down upon her, and if there comes from you no manifestation of displeasure, the ceremony will go on."

The fanatics knelt on the floor of the cabin, and looked up at the idol's face. Presently the spokesman uttered a command and they arose again.

"Ruth Holland," he said, "is it your wish that we accept you, before the aitu, as betrothed to a priest of the temple?"

She hesitated a moment, looked at Uncle Dick again, then turned toward the god.

"It is," she replied.

I saw Uncle Dick spring forward and hold out his arms to her.

"Ruth!" he cried.

But the guards forced him back against the wall, and Miss Holland turned her face away quickly, for fear he would see the tears in her eyes.

"Ruth!" he cried again, and the cry was one to cut to a person's heart.

I tried to get near him, tried to tell him with my eyes that it was all a trick, but he was not looking at me, but at the pale-faced girl who stood at the foot of the steps, her head bowed down.

The spokesman addressed the idol again, and the men began chanting. One of them brought a brazier, and heated something in it. And then the spokesman took from it a tiny device shaped like an arrow with a circle round it. It was white-hot.

"Woman, you must pardon any pain that I cause you," he said, and before the words were out of his mouth he had bared her left arm and touched the white-hot metal to the flesh.

She gave a little cry, and the odor of scorching flesh came to our nostrils. Uncle Dick cursed and struggled to get free. But she turned and looked him straight in the eyes, and spoke.

"It hurts no longer," she said bravely.

I knew what she wanted to say—that she was doing it for him. But to give voice to that would be to put the fanatics on their guard and make them disbelieve the sincerity of her part in the ceremony.

The spokesman addressed the aitu again, then turned rather sharply and faced the door.

"It is but half finished," he said. "Where is the man?"

We expected, of course, that they would use a proxy. One of the men stepped back and threw open the door and went out into the passage. We stood against the wall, waiting.

A moment passed, then Ruth Holland gave a scream, and fell full length at

the feet of the aitu. I whirled around to discern the trouble.

Welch was standing in the door!

"Let the ceremony proceed!" he said.

CHAPTER XIII.

The Disappearance of Ruth.

I HEARD Captain Hawson utter an oath, saw him start toward the door. But the guards held him back and forced him to stand against the wall.

Welch stepped into the cabin, leaning for support on one of the men. There was an evil smile upon his face.

"So!" he said. "It seems some one has been caught in their own trap. I was not so badly wounded as certain people were made to believe. You thought to gain time, evidently, by having Miss Holland agree to a ceremony. Well, the ceremony shall proceed now!"

He looked across the cabin at her, and spoke to the commander.

"Revive her," he said. "The hot iron has made her swoon."

While we stood there helpless, watching Welch's evil smile, they revived her, and helped her to her feet, and made her stand at the foot of the steps again. Then Welch went forward and stood beside her.

Again the fanatics began to chant. Questions were asked, and Welch answered them. The hot iron was applied to his left arm, too, and in spite of his weakened condition, he bore the ordeal without flinching.

Then the spokesman faced us again, after speaking in his own tongue.

"This man and this woman will join hands," he said. "By the joining of their hands is their betrothal sealed. Hereafter they belong to each other and to the temple of the aitu. No power save death can separate them. She shall be veiled and no man but her husband shall look upon her face. When she joins hands with this man she becomes a daughter of the aitu, even as he became the aitu's son."

He stepped back and stood before them. It was the climax, the crucial moment. We all realized that our trick had turned tragedy. Once she joined hands with Welch before the aitu, she was lost. No power but death, as the spokesman had said, could save her.

It was too great a risk. Unless help arrived almost as soon as we reached the island, she would be the bride of Welch, for he was not so badly wounded but that the wedding ceremony could be held as soon as the island was reached.

I saw Welch put out his hand, saw the evil smile on his face again as he turned and looked at Uncle Dick.

"You will take this man's hand?" the spokesman asked Ruth Holland.

She looked at Welch's face.

"No!" she cried.

"You dare defy the great aitu!" the spokesman screamed. "You dare defile him by beginning a ceremony in his presence and refusing to conclude it? Do you know the penalty?"

"The penalty is death," she said, almost in a whisper.

"Immediate death," he corrected. "You have your choice—which is it to be?"

She turned and looked at Uncle Dick again, then faced the spokesman calmly and bravely.

"My choice is death," she said.

The spokesman's voice was cold and hard as he replied:

"Very well! At the rise of sun!"

She turned as though to go toward the door, but Welch stepped beside her quickly.

"Life is sweet," he said. "You do not want to die! You should not have tried the trick unless you were ready for the consequences. I cannot help you now—you know the law. Either you must conclude the ceremony at once, or die. Why not conclude the ceremony? Perhaps I may help you to find a way out when we reach the island."

She whirled upon him, her face flushing.

"You cannot decoy me with lies," she said. "I have chosen death! I played the game, and lost!"

"So be it—your life is your own," Welch said.

"Are you going on with the ceremony?" the spokesman demanded.

"I am not!" she replied.

"Then death awaits you at the rise of the sun!"

"I will be ready," she said, still calm.

Uncle Dick's face was white, and I wondered why he did not say something. As Ruth passed him, going into the passage, he bent toward her.

"I believe you now," he said.

She turned and smiled at him through her tears.

"That is worth dying for," she replied.

Then she went out, the guard with her, and walked to her own cabin. We were forced into the passage, too, and taken to our prisons. I saw Welch stagger toward his cabin, two of the men supporting him.

Inside, I threw myself on the bunk and burst into tears. It seemed that everything was against us, that there was no way to escape from the toils of the idolatry that engulfed us.

There was so much that I did not understand. What had there been between Ruth Holland and Uncle Dick, and why had she seemed so happy when he said he believed, although death was awaiting her?

I lay on the bunk sobbing for almost an hour. Once I heard the spokesman in the passage talking to the guard. Then I heard the captain moving the chair away from the hole in the wall. I left the bunk to hurry across the cabin and remove the draperies from my side.

"Come in," the captain said. "We have no time to lose."

"What are we going to do?" I asked, when I was inside his cabin and he was covering the hole again.

"We are going to save her," he said in a breath.

"But how?"

"Wait!"

He opened the secret panel, and told me to get into the alcove. Then he showed me how to close the panel and how to open it from the inside when it was unlocked.

"Remain in there and be absolutely quiet," he said. "Do not come out, under any circumstances until I tell you to do so. You must obey orders now, Roland. Can you do that?"

"Yes, sir," I answered.

He closed the panel then, and walked across the cabin to the door. I heard him knock upon it.

In a moment it was opened and the guard spoke to him. I could see, through the tiny slit in the panel, that the captain was peering into the passage as he talked.

Suddenly he grasped the guard by the throat, and choked him into insensibility. Then he carried him back into the cabin, closed the door, and bound and gagged the man and left him in a corner of the room.

"Not a sound!" he whispered to me, as he passed the panel.

He opened the door again cautiously, and stepped out into the passage. For a time there was no sound; then there came a crash as of a door being broken in, and after the crash another, and a storm of cries from the passage and the deck.

Captain Hawson rushed back into the room, Ruth Holland following him. He slammed the door and rushed across to the panel and cried to me to open it. And then, quicker than I can tell it here, he had put Ruth into the alcove, had closed the panel again, and we were alone in the cabin with the bound guard.

"The man has a revolver; take it," the captain said.

I carried out his order.

"Now, get into your own cabin," he instructed.

I dashed across to the chair and started to remove it. Outside in the corridor there were screams and cries.

Just as I gained my own cabin and adjusted the draperies before the hole in the wall, the men burst in upon Captain Hawson.

I threw the revolver under the bedclothing, for I was afraid they might enter my cabin and find it. Then I crept across to the wall to listen.

Captain Hawson had been seized and his hands bound; I could tell that from the words I could hear.

"What does this mean?" I heard him ask.

"What have you done?" the spokesman demanded.

"I conquered one of your guards."

"What have you done with the woman?"

"What do I know about the woman?" the captain demanded.

"The guard at the end of the passage

said you released her and brought her here."

"Search and find her, then," the captain said.

I heard the men muttering among themselves.

"Search and find her," the captain repeated. "She is doomed to die at sunrise. Unless she is executed then, the great aitu will look with scorn and curses upon you.

"What will you tell the high priest when the island is reached? Search and find her; and, unless you find her, your own doom is sealed."

"What have you done with her?" the spokesman demanded again.

"I am saying nothing about that," the captain replied.

Then I heard another voice—the voice of Welch.

"What is the trouble?" he asked.

The spokesman told him rapidly. The others kept up their jabbering.

"Captain Hawson, you'll spare yourself trouble by giving up the woman," Welch said.

I heard the captain laugh.

"You are ridiculous," he said. "The guard says I brought her into this room. Well, you don't see her, do you?"

"She is here, nevertheless," Welch declared.

I heard him walk around the room, and knew he was searching. In a moment he had come to the chair, had pulled it aside and discovered the hole. I heard his cry of surprise.

There were more quick orders, and two of the men ran out in the passage; and came to my door and opened it, and fell in upon me, with their revolvers in their hands.

Welch was just behind them. He took in the cabin at a glance, then stepped across to me.

"Where is Miss Holland?" he demanded.

"She isn't in here," I said.

"Where is she? Do you know?"

"I have said she isn't in here."

"Do you know where she is, though?"

"I will not answer," I said.

"Then we'll torture the answer out of you."

He seized me by the arm. I wrenched myself free, but one of the men held me while Welch cried loudly for the spokesman.

"This boy knows where the woman is, and will not tell," he said. "Take him to the temple-room, torture him, make him tell."

"Master," the man replied, "that cannot be done. The boy is doomed to die, for he has touched the aitu. The law says a person doomed to die under such circumstances must not be tortured, but must go to the execution perfect in body. The aitu demands perfect sacrifices."

Welch sent the other two men out, and walked closer to the spokesman.

"Even so," he said, "sometimes it is better to disobey the law than to die. Unless the woman is recovered, you are doomed for allowing her to escape, and thus helping defy the great aitu. We can torture the boy ourselves. None other need know. It is the only way you can save yourself."

The man hesitated. His face had grown white as Welch spoke, and it was plain to see that the fear of death was upon him.

"Perhaps it would be the better way," he said. "Master is a priest of the temple, and his word is law."

"But no one must ever know," Welch said.

Then he grasped me by the arm again.

"Will you tell where the woman is?" he demanded.

"No," I said.

"Then we'll torture you to make you tell."

"I will not tell," I answered.

"We'll see about that," he cried angrily.

He went to the door and called one of the men. I could not understand what it was he said, of course; but judged it was something about guarding the captain.

Then he turned to me again.

"For the last time," he said, "will you tell where the woman is?"

"No!" I replied.

He addressed the spokesman: "Light the candles in the temple-room," he instructed. "Then return here and help me with the boy. We'll see if a little torture won't make him open his mouth."

(To be continued.)

King of the Freight-Trains.

BY WILLIAM CLINTON COURT.

FAST as new conditions of commercial life develop, the railroads must evolve new means of meeting those conditions. No industry feels as directly the demands of all the industries. No industry must, imperatively, meet the emergencies of all industries as unfailingly. This is the genius of railroading, but neither shippers nor the general public realize that it is genius. The latest expression of this genius for emergencies is the silk-train. Read here why this flying freight, moving remorselessly across a continent, is the monarch of the revenue-producing department.

The Product of Worms in the Far Orient Becomes the Haughty Nabob of All Freight Traffic on the Continent of America.

KING of the world of freight! This is the "silk-train." In all the rest of railroading there is nothing so dramatic and strange as the way, hour after hour, day following day, these trains pound across the continent at a continuous speed, rivaling that of the limiteds, their cars carefully guarded, made air and moisture proof, the tracks kept clear for them.

They might be potentates, millionaires, railroad presidents or governors, these bales of raw silk, for the deferential attention paid them and the special traffic schedules arranged for their swift progress.

And truly they should have a consideration far beyond the ordinary. Some of these trains have aboard of them a million dollars' worth of raw silk. A train-load aggregating half a million dollars in value is not at all uncommon.

Transporting this raw silk from the Pacific coast to the Atlantic at record speed, as fast as any passengers can be carried, has come to be a new railroad specialty, involving the prettiest of problems. Three great transcontinental lines are competing for the traffic, each gathering in all it possibly can.

Freight Autocrats.

It is not a question of rates, but of perfection of service, the competition being to take a given number of bales off a steamer from the Orient and land them in the East, where the silk manufacturing industry largely congregates, in the very shortest space of time.

All in all, in these trains that touch the top notch of freight manipulation—

and even go far beyond that—something like eighty million dollars' worth are whizzed yearly from coast to coast. It is not like freighting in the least; it has come to be a wonderful new feat of the railroads, proving what they can do when emergency arises. Beside the raw silk bales, the passenger in the vestibuled train sinks to a secondary place.

The reason is easy to discover, if you are in the silk trade. If you are not, some understanding of this most picturesque, costly freight is necessary. Imagine that manifest impossibility, a fast-moving train of six, eight, or ten cars, loaded up to the roofs of each car with boxes of diamonds. Yet such a train would not be a hundredth part the problem of even six cars of raw silk.

There is scarcely anything else in the world so perishable among costly articles as raw silk. It is easy to destroy, easy to damage, easy to steal. The elements can injure it to a greater degree and more quickly than almost anything else.

It is highly inflammable, moisture is destructive to it; thieves, once they had the ghost of a chance, could readily make away with a bale. The one thing for a railroad to do with a train-load in its hands, in order to avoid liability for tremendous damages, is to get it to its destination as quickly as possible.

The Team-Mate.

Hence the speed, despatch, judgment, and care no other freight gets. Hence the right of way it shares with the limiteds. Over the Pacific some of the greatest ships of their time have been plying. The silk trade from Japan, China, other points of the Far East, is one of their strongholds. Ships and trains work together.

Over the Pacific the bales have come in a "silk-room." These bales of raw silk, from the time they leave their oriental farmers, cannot be placed with common freight. As much as the passengers on shipboard, they have a place of their own.

The "silk-rooms" on these ocean steamers are as painstakingly constructed as the machinery itself. They are moisture-proof, perfectly carpentered apartments, built to provide every security for a part of the cargo that needs twenty times the care and all the security given to specie.

The problem of getting the silk across the seas is simple. It begins to be really a problem once the Pacific liner warps into its dock at Vancouver, Seattle, Tacoma, and San Francisco.

The wireless has already been busy announcing the steamer's approach. By the time the first line is thrown at the dock the silk-train is alongside. Down on the dock's very edge a spur has been built. Not only are the cars, as many as may be required for the cargo, in waiting, but an engine with a full head of steam is attached. Once the last bale is transferred there is not a moment's delay.

Picked Crews.

Picked crews, men of the grade of limited employees, are to take this train over the continent. Specially selected gangs of stevedores, huskies trained to work with the greatest expeditiousness and care, move the bales from silk-room to silk-cars.

Of course, the cars that make up such a train are not ordinary freight-cars. They are not, it is true, especially built for transporting silk—that has not been considered necessary—but they are of the highest type of freight-car, and no car is chosen for these delicate runs without having been singled out as particularly adapted to its purpose.

Consider the qualifications needed. Ordinary freight takes about a month to get from the Pacific to the Atlantic. The time on fast freight for fruit across the continent, where cars must be constantly kept iced and where there is need for despatch, if ever, is fourteen days. But a silk-train makes its journey in much less than half that time. From ocean to ocean it keeps up the average speed of thirty miles an hour, the time of a transcontinental express.

There are wonderful tales of railroad scurrying of seventy, one hundred miles an hour—and more, even. But these are over comparatively short stretches of track, specially patrolled. Thirty miles an hour, steadily kept up from sea to sea, is a famous record. These silk-trains do it.

All this nicety in selecting cars for this silk service is necessary, for none of the ordinary risks of freight can be taken. Just as with a passenger-train of the highest grade, there must emphatically be no delay.

A flange must not break, there must be nothing to stop the steady progress of the precious car-loads. Thus, each car that goes out on this service is equipped with the Krupp wheels, that cost more than twice as much as the wheels used on ordinary passenger coaches.

Besides these silk-cars, only private cars and some Pullmans are equipped with these Krupp wheels. Only wheels like them could stand the strain of this interminable, constant pounding, day and night, from oriental steamer to "conditioning warehouse."

Two sizes and varieties of cars are used for these silk-trains. One is of the same dimensions as the ordinary baggage-car, and holds about eighty bales. The other is of the box-baggage type, and contains, when loaded, sixty to seventy bales.

Both are water, damp, and dust proof. There is seldom a train embracing less than six or more than ten cars. With a shorter or a longer train the requisites for this racing-time could not be readily maintained.

On Passenger Schedule.

Approximately, it is three thousand miles across the continent. Roughly speaking, therefore, the silk-train makes its delicate, risky journey, with all these riches at stake, in one hundred hours, a trifle over four days.

One hundred and twelve to one hundred and twenty hours is the speed reached in actual practise, the speed of the best-equipped passenger-train. Sandwiched between these, the silk-trains run under precisely the same conditions.

Indeed, from one or two of the Pacific ports, when a steamer brings over too small a consignment to make a special silk-train advisable, as many cars as may be necessary are loaded with the bales and become a part of the next limited, the silk-cars being exactly as important as those carrying passengers.

All this is plain business, simply a detail of the way the railroads are meeting the exigencies of the rapidly developing oriental trade. It is the prettiest sort of transportation work, a service that these times of commercial rivalries have brought about, and that is well paid for.

Wonderful Railroading.

The traffic is enormous. Literally, floods of Canton, Tussah, and Japan silk pour from overseas in an unending stream. A single steamer may bring as many as thirteen hundred or two thousand bales. One hundred and fifty-eight thousand bales came into this country last year—twenty-three million pounds. Ninety-five per cent of it, in rough figures, was carried along the great transcontinental highways.

There were in all about two thousand car-loads—three hundred trains, at least—that made these special runs, with never a misadventure, so far as the record goes. Wonderful railroading this, when the preciousness of the freight is considered; romantic and dramatic in the extreme, when the story is imagined of the journeys of these cars of raw silk, first over the mountain-chains, then through Canadian or American wheat-fields, down the slopes, over the prairie country, into the lands of great manufacturing towns, one steady, unremitting turning of wheels, until the great freight depots of New York, or elsewhere in the East, are reached.

Beauty's Debt.

Here is the heart of this romance. There is hardly a silk dress of American manufacture that rustles daintily in a ballroom, enfolding a beauty's form, or displays itself on the promenade; not a silk petticoat that, still in its bale—then simply threads of raw silk just as they are unwound from the cocoon—but has not shared in these thrilling rides from the West to the East.

Even the haughtiest Pullman porter of the limiteds has respect for these silk-trains. They yield him no tips, for a certainty; but he knows, and so do his conductor and his engineer, that this rival is as good in the railroad's eye as his own splendidly caparisoned fleet of parlors, dining-saloons, and libraries on wheels.

Should delay come to his train, under no circumstances must the silk-train behind be held up. Should necessity arrive, the limited must even side-track. The silk-train is an aristocrat; it has brought into being new laws of the road. For the first time in railroading history, freight meets passenger service on equal terms.

As a matter of practical operation, the silk-trains and the passenger-trains of first rank do not conflict at all. Across the continent trains, naturally, do not follow each other in rapid succession. There is room and to spare for both on the lines of steel that bind the States. Between the limiteds, but under the same conditions, the silk-trains run. They have their own schedule.

No special care is taken of these silk-cars *en route*. The one thing required is swift, continuous progress. Before the train moves from the dock each car is sealed. The seal is not broken until it arrives at its destination.

Fire, water, damp, and thieves are the enemies of these bales. But let the train keep on with never a stop, and the most expert care for hot boxes and such running misadventures, and its costly cargo is safe. Robbers of the road might easily pick up a bale, of five or six hundred dollars in value, weighing hardly one hundred and fifty pounds; but how can they, from a train that scarcely stops, that is joint monarch of all traffic, freight and passenger?

So, unendingly slip along these pets of traffic managers, the last word said yet on the moving of freight, stopping only to change engines and crews at division-points, a "run solid," clipping off the hours.

THE ROUNDHOUSE FOREMAN.

WE always had considerable sympathy for the roundhouse foreman. He is a sort of middle boss caught between two fires, but we dare say many of them manage to get a fairly good time out of the business.

Of course, it isn't recreation. It is hard, unpleasant, responsible work, and about the only fun to be got out of it is possibly when you quit and see how nice it is not to be doing it.

Still, we hope it isn't as bad as Mr. James Kennedy, writing in *Railway and Locomotive Engineering*, would have us believe. Apparently Mr. Kennedy has a very low opinion of the position of roundhouse foreman, but there is a charm about the vigor of his style that makes us regret that we cannot reproduce the whole of his remarks. Here are a few of them:

"An overworked mule in a Pennsylvania coal-mine has some brief glimpses of green fields in its darkened life. The roundhouse foreman has no such sunny spasms.

"He has to have the suppleness of an acrobat and the attributes of a quadruped. When you enter the roundhouse and behold a pair of muddy feet looking out of the dome top, that is the roundhouse foreman standing on his head examining an old-fashioned throttle-valve of the vintage of 1860.

"If you see a four-footed creature crawling in the slimy pit, with one eye on the forward eccentric and the other dimly scanning through the murky haze, the crafty mechanics warming themselves at the fire-box doors in the comfortable cabs, that's him. He is not there from choice. He is doing the things that nobody else can do.

"He is rectifying the involved valve-gear that some meddling engineer has distorted. He is the only man in the place whose fine ear is attuned to the rhythmic and passionate exhaust of an overworked freight-engine. And what thanks has he?

"Thanks, indeed! He is paid by the month. At night, when other men are paid time-and-a-half, he gets nothing but abuse."

These are some of the milder parts of the dark picture, but we are prepared to forgive the painter when he concludes with a eulogy with which probably all good railroad men will agree, for it is doubtful if in all the railroad field there is as popular a figure as the subject:

"There are exceptions. Some there are like 'Shandy Maguire,' who has just finished forty years' service as roundhouse foreman at the Lackawanna shops at Oswego, New York, and retires on a well-earned pension.

"He is one among a thousand. A great, stalwart man with a soul of fire and a body of iron. Gifted by nature with colossal strength, he has led the simple life. Like the Hebrew children of old, he has come unscathed through the fiery furnace."

"OH, YOU BUTTINSKY!"

BY F. M. RICHARDSON.

Bill Hooks Up to a Silk-Plush, Mahogany-Lined Fairy, When Maggie Throws the Arm.

"WHAT'S the matter, Bill?" inquired the engineer, as his fireman straightened up from sweeping the deck. "You look as if you had been called for a double-header west with fifty loads of pig iron in the train."

"Yeh? Well, I'm feelin' some t' th' blink, all right, all right. Say, did you ever have 'er slip just as you was getting a big train over th' top of Cimeroon Hill an' have t' double? Well, if you ever had that happen to yer—I feel just th' way you did when she slipped. You see, it was this way. Me an' Long Jim—him that fires th' 23 on local—went t' one of them Hallowe'en shindigs las' night. Dern his long, hungry picture, anyhow! I might 'a' knowed a cussed flat car like him would be a hoodoo, not t' speak of his connections with 23!" And Bill gave a vicious tug at the bell-rope in response to the conductor's signal to pull out.

Nothing more was said as the great engine drew her train of coaches out of the train-shed and threaded the mazes of the yards, but once free from the city, and bounding along to the rhythmical hum of the exhaust, the engineer's curiosity prompted further questioning.

He had her hooked up in six inches, his pipe lighted and drawing well, the injector regulated, and he was feeling fine as he watched the landscape slip by in a streak.

Noting Bill's vicious slamming of the fire-box door, and how he smashed the lumps of coal as if he wished each were some one's head, he finally said:

"So you were at a Hallowe'en party last night, were you?"

"Yep."

A pause while Bill chucked in a fire, distributing each shovel of coal with a jab which somehow made his partner think of a doubled-up fist.

"Well, what happened to Jim and you, anyhow?" asked the eagle eye.

"They was plenty happened to *me*, an' if ever I get a square chance at that long-legged forgery on th' human race, I'll punch seven distinct kinds of—well, jes' lemme meet him!

"TH' WHOLE THING WAS A HOODOO FROM TH' START."

"There was to be a party up to his girl's house, an' nothin' would do but I must go 'long; so, like a derned, gibberin' idjut, I said I would, an' he called for me at eight o'clock.

"His girl lives way out ten miles from nowhere in Hyde Park, so we took a Cottage Grove Avenue car, an' burned up an hour getting there. Th' whole thing was a hoodoo from th' start. It rained a little about seven o'clock, jes' enough t' leave some puddles lyin' 'round convenient, an', fust pop out of th' box, I had to step square into a dirty one. It looked like just a small puddle, but, judgin' by the immediate results, it must 'a' been a young Atlantic Ocean.

"Say, that slush must 'a' splashed higher'n the Masonic Temple! Anyways, I looked like an engine that's tried t' make a flying-switch with th' water out of sight in th' glass!

"Then, when we got off th' car, I stepped in front of one of them benzine-buggies, an' it's a miracle I wasn't landed in th' morgue 'stead of just bein' rolled in the mud.

"Say, I looked like a chimney-sweep caught in a rain-storm. I wanted t' go back then, but that measly imitation of a cross-eyed coal-heaver wouldn't hear of it, so we goes into a tonsorial artist's joint an' gets th' porter t' remove th' surplus real estate, an' I stuck for th' big show.

"I never did have no sense, nohow! If I did, I wouldn't be pokin' coal into this measly old tub to make steam for you to blow away through that derned old whistle, just for your individual amusement—see?"

But the engineer pretended not to hear, and, after a snort or two, Bill continued:

"It was just nothin' but trouble, trouble, an' more trouble, an' every blamed time we'd splash into a fresh bunch of it Jim'd grin like a galvanized ape. Say! Honest, I believe that gangle-shanked freak actually enjoys grief—an' th' bad-luck semaphore was sure all th' way up last night.

"You see, it's this way. I'm some sweet on Maggie Donovan, who lives on th' West Side, and have been conductor on her train for some consid'able spell. Generally I'm on a regular run with her for engineer, but I wasn't called for last night, an' supposed she was in th' back shop for repairs, or maybe had slipped an eccentric, so she couldn't get out.

"WE WAS GETTIN' THICKER THAN TWO ENGINES PULLIN' ONE COACH, AN' SHE HAD JUST—"

"Old Gawky didn't say a word about her bein' at that particular doings, though it seems she had it framed up with him t' surprise me.

"She surprised me, all right, all right! Derndest, most successful surprise-party I ever had rung in on me. Say! I sailed into trouble as innocent as a lady telegrapher at a night-station!

"When we got there, Lanky introduced me to about a dozen peaches an' th' he-things that was with 'em, an' there

bein' a couple of odd ones, I proceeds immediate t' annex myself to a nice, yaller-haired beauty.

"She was a pippin, all right! One of them gals that's a regular silk-plush, upholstered, mahogany-lined parlor-car, with gold-plated trimmin's. One of th' kind that snuggles up to you like a seat-box cushion when you're tired.

"We was in one corner on a sofa, gettin' thicker than two engines pullin' one coach, an' she had just took a rose from her shiny yaller hair an' was pinnin' it t' my coat, leanin' over some closer than seemed absolute necessary, an' I was fix-

—TOOK A ROSE FROM HER HAIR."

in' up her hair where she took th' rose out, when I happened t' look up, an', jumpin' side-rods, if there wasn't Maggie standin' in th' door lookin' at us, an' that big mutt of a brother of hers with her!

"Say! She didn't say a word, but I could see red flags wavin' all around just as plain! Th' air was full of 'em. She let out a splutter or two, like she was tryin' her gage, an' then she just yanked her cylinder open an' sailed out on th' main line, runnin' wild under two hundred pounds pressure, with th' throttle wide open an' the lever clear down in th' corner!

"She landed on Yallertop, an' in just two-fifths of a second th' air was full of rats, switches, hairpins, and squeals. Yaller was game, though, an' it wasn't all her head-gear playin' tag with th' chandelier—not by a derned sight. I tried to butt in an' separate 'em, but something — I afterward found it was her brother — coupled on behind an' double-headed me across th' room before I had a chance t' jam on th' air an' stop.

"Him an' me mixed as soon as I could work th' turntable; then some more of th' fellers an' a few of th' girls got an idea they had runnin' orders, an' proceeded to mix in th' muss.

"Say! I'll bet it took th' wreckin'-crew all next day t' clean up th' battlefield!

"Mag's brother an' me finally rolled out of th' front door an' down th' porch-steps, gettin' separated in th' process, an' when I got up I just opened 'er up on sand under two hundred an' fifty pounds pressure of pure scare.

"I knocked down a whole section of picket fence gettin' out of th' yard, an' jumped a street-car without even flaggin' it.

"I could hear th' sounds of war above th' noise of th' car as I rode away, an' Mag's brother howlin' invitations t' me t' come back an' get properly licked.

"The street-car pilot asked me, 'What's th' matter in that house back there?' I told him they was tryin' t' capture a wild woman, escaped from th' jungles of th' West Side, an' let it go at that. It wasn't none of his business, nohow!"

"What! You didn't run away, did you?" inquired the engineer.

"Huh! Betcher life I did! I'm no John L. Sullivan, am I? Do I look it? Nix! I'm just an ordinary, every-day fireman, an' no pacifier of a lunatic asylum.

"Run? Say! When I got back on th' rails, after separatin' from that brother of Mag's, I just dropped a whole box of sand, an' it would 'a' hustled a passenger-engine t' 'a' made my time t' that street-car.

"UNDER TWO HUNDRED AN' FIFTY POUNDS PRESSURE OF PURE SCARE."

"I don't know just how Mag an' her brother squared it with th' rest of th' bunch for startin' th' row, an' I don't care a dern, either. But if we was t' have a head-ender with th' 23 to-night, an' Long Jim was t' get killed, I wouldn't shed a tear—you hear me!"

"But how are you going to square matters with Maggie, Bill?"

"Square nawthin'! No runaway engines for mine! Steady associatin' with dynamite might spoil my nerve. She carries too blamed much steam, an' when she blows off she's consid'able too violent! I thought she was a nice little eight-wheeler with her pop set at about one-forty, instead of bein' a consolidated mountain-climber carryin' two-twenty-five without a simmer! Not for mine! Nay, nay! No more West Side for Willie!"

And Bill cracked a lump of coal twelve inches thick with one swipe of the coal-pick.

HOW RAILROADS ARE BUILT IN CHINA.

UP-TO-DATE methods are spasmodic in China. A reform movement for the construction of railways is sometimes backed by methods that betray the wiles, the cunning, and the incapacity of Orientals.

Mechanical facts have little appeal to them, and the most interesting mathematical problem is apt to be that of the fourth dimension, or something similar. Speaking of the work being done on the Shanghai-Hangchow-Ningpo Railway, the New York *Summary* says:

"Nominally, there is a British chief engineer. But he is appointed by representatives of the Yu-chuan-pu, and is not recognized by the company. He has no authority, and is not permitted to interfere with work under construction, nor rectify blunders committed in work already completed.

"Only Chinese are employed. On the Kiang-su section the Chinese engineer in charge has only a rudimentary knowledge of railway construction. One engineer in control of a section of twenty miles of railway has no engineering training, but owes his appointment to the fact that he was the favorite student of the president of the company, who is a well-known authority on the analects of Confucius.

"Built under such conditions, the railway presents every possible defect. Bridges are unsafe. Rails are of native manufacture, of obsolete section, spiked into soft-wood sleepers from Manchuria and Japan."

Letters of an Old Railroad Man and His Son.

BY HERMAN DA COSTA.

No. 2.—JIM GRIPS A FEW LIVE WIRES.

A Learned Work on Transportation Disturbed the Dignity of the General Manager's Office, and the Laugh Was on Harris.

JIM TO THE OLD MAN.

DEAR DAD: That's a beautiful 4x5 lecture you gave me in your last, but I don't believe it hits me—at least, not as much as you might think. I admit I am enthusiastic; but, honest, daddy, I work like a horse, too.

Mr. Connolly, the C. C., is one of those fellows who doesn't believe in loafing along from 8.30 A.M. to 5 P.M., and then begin working like a soda-fountain clerk on a hot summer night, and keep everybody at it with you till 8 P.M. No, sir! He dictates stuff to me steadily from 8.30 to 9.15, and sometimes even ten; then he leaves me alone to sit down to my machine and get it out. And I *get it out.* By five o'clock everything is cleaned up around the office, and we are ready to quit.

Over in the general superintendent's office it's entirely different. The chief clerk gives his stenographer one letter at a time, and from 12 to 3 P.M. doesn't give him anything but a telegram now or then.

At 3 P.M. he has a big batch of mail piled up on his desk that has accumulated there during the morning, and he starts in firing it at him. As a result, they both have to stay down till 8 P.M. On the strength of that they've got the reputation of being the hardest working office in the building.

I can't see how they ever get done. The chief clerk has got to have a letter just so. He won't stand for any erasures in a letter, and it's a crime to stick in a comma in the wrong place, or split a word at the wrong point. Then he goes over each letter and changes words, until he gets a piece of literary work.

I understand he has been doing that for eight years, and never goes any faster than he did in the beginning. He doesn't keep his stenographers very long.

One stenographer he had was a fellow who had written a little bit for the magazines. He had been in the railroad business for a long while, and the C. C. hired him on the strength of his being able to write literary stuff. The stenographer, Brown, started turning out the regular railroad letter—written in a hurry, maybe a few mistakes, but giving the idea so that the fellow who read it could understand what was wanted.

Timmull, the C. C., had told him to change the letters that he dictated, if he thought it would make them better, and this fellow really got out pretty intelligent stuff. But Timmull went up in the air.

He would send back the letters carefully scratched over, and maybe get him to write one over two or three times before he had it to suit. The fellow was puzzled a bit—you know how railroad work is; there isn't any time to waste in it, particularly in the general superintendent's office—but he tried hard to turn out stuff to suit Timmull.

Of course, there was too much mail to fool over that way, and he kept getting back with his work, until he was a week behind. But he couldn't stand it long, and the break came. He had been coming down at seven in the morning, in order to write up some letters himself, and one afternoon, after Timmull had rushed out with a letter to give to him, he took it, wrote it, and carried it back.

In about three minutes Timmull came out with a sad, solemn face, and a horrified expression. He threw the letter down on Brown's desk.

"Look at that," he said. His voice was shaking with grief. "Look at it. My—my—my! Such a thing is almost impossible. You say you're a writer. You ought to know that no writer, or anybody with any idea of grammar, would do a thing like that. I can't understand it. Why, it's awful—really it is!"

Brown picked up the letter, and read it over. "What's the matter with it?" he asked, looking up at Timmull.

Timmull sighed heavily, and looked at Brown with a hopeless, despairing, you-don't-mean-to-say-you-can't-see it expression. His trembling finger pointed at the end of a line.

"There!" he said tragically. "Horrible!"

Brown looked at the word. He had split the word "improvement," so that the "o" was at one end of a line, and the "v" began the other. He had made a miscalculation, just as many stenographers do when in a hurry, and thought there was enough space left, when there wasn't.

Everybody in the office was grinning, of course. They are railroad men, and had given up Timmull as a hopeless case.

"I'm afraid you will have to quit," said Timmull. "You can't do the work at all the way I thought you could. I was willing to make allowances, but, really, this is too bad."

"I'm afraid I will, Timmull," answered Brown, gravely. He picked up his hat from the desk, got up, held out his hand to Timmull, and shook hands. "Some day I hope to come up to your expectations, but"—he shook his head sorrowfully, and looked around the office—"I doubt it."

That was all—didn't talk back, as most stenographers would have done, but the boys never got tired of telling that story to every new man that came in. When Brown made good with literary work, Timmull fairly went wild, for it got around the building, and everybody used to ask him about it. But he didn't change. He's that way to-day.

Of course, in a bank, or some big place where letters have to be perfect, it's all right getting perfect work, but you know railroad letters are read once, stuck on a batch of papers, and filed away. When a man has to write a hundred or a hundred and fifty letters a day, mistakes are going to come in, no matter how hard he tries to keep from making them.

I can't see the sense of not letting a man erase a mistake; it saves time. And, as for writing over a letter three or four times, around a railroad office—why, it's ridiculous.

There isn't enough time for that, unless a man wants to stay at the office from 7 A.M. to 10 P.M. every night. I know I make mistakes—lots of them, but I don't make them purposely, and when I see them I correct them.

Mr. Connolly says that in railroad work the office that's able to close up at five works harder than the one that closes at eight, and I think so, too. It's knowing that you will have a little time to yourself that does it.

Then, again, the work is so interesting. It isn't merely a matter of taking dictation, and writing it out on a typewriter. Each man has some responsibility.

It made me feel mighty proud at first, when Connolly would turn over a letter to me and tell me to answer it. I've got over it now, but that feeling of responsibility makes me try harder to get my work right, and if I get my work right they will begin to depend on me. Around me are hundreds of men, holding big positions, who started out just the way I did.

THE FOREMAN ASKED HIM WHAT HE WAS GOING TO BE, AND HE SAID, "GENERAL MANAGER OF THE B. AND D."

Look at T. F. They say he started in as water-boy on the B. and D. One day the foreman of the gang asked him what he was going to be, and he said, "General manager of the B. and D." The foreman laughed at him, but T. F. took to studying at nights, went to night-school, got to be foreman of a gang, went in the engine-house, was promoted to engine-house foreman, then to master mechanic, and then was made superintendent.

Then he became general superintendent; and at last, after a long, stiff fight, got what he said he would get—the general managership. In the beginning he was an uneducated, tough citizen, with just enough spunk in him to stick out a little longer than the average man.

And the pile of people that know him, dad! Section laborers, railroad presidents, engineers, switchmen, brakemen—everybody on the line who has been there any time at all. They call him Tom.

When he was made general manager the whole town of Fairmount turned out, closed up all the shops and stores, hung out flags, and gave a public holiday. They called it "Tom's Day." He started from that town, you know.

Connolly, my chief clerk, is the same way. He started in as messenger-boy in the telegraph office. Talk about your lectures, dad — when I see these men around me, it beats all the preachings and sermons I ever heard. The story-books aren't in it.

I know, just as sure as I know I am writing this, that I can be as big as these men, some day, if I try as hard as they did. When I read what you said about looking on every day as a new day with the company, I began to understand it all. It was just working steadily, and being

decent with people just as you were when you first met them.

Lots of the fellows in the building think, talk, and live salary. Lynes, for instance. One would think that Lynes, with his twenty-five years in the company's service, would know that the salary isn't what they hire a man for.

Almost every day, when Lynes finishes his work, he sits at his desk with his hands folded. If Connolly comes to him with any work he will pick up a pad and pretend to scratch at it, so he won't have to do any extra work. It's true he may have been enthusiastic in the beginning, just as I am; but, it's just as you say, a man has got to keep up with his enthusiasm.

ALMOST EVERY MAN IS ALWAYS WILLING TO TALK ABOUT HIMSELF.

There's one thing that's really funny about the office. Almost every man is always willing to talk about himself and how valuable he is. The office-boy will tell me what he does, and how much better he does it than the man before him, and that he could easily fill the stenographer's position if they would give him his chance. The stenographer talks about his work, and that it was never done right till he came there, and his salary ought to be increased; and the clerks talk the same way. They are all convinced that the road *might* be able to get along without them, but they don't see how it could.

Listening to them, I sometimes get the impression that the road was a howling wilderness before they came. Each one has put in a suggestion some time that was good—maybe about sending out the mail earlier, or dividing up work more evenly or something of the sort; the regular office improvements that crop up all the time—and he never forgets it.

He lives on his reputation, and swears by it in the face of everything that comes up in the office. And if I hint that he's it all, and ought to be rewarded, he believes I'm agreeing with him that the other men aren't one, two, three compared with him. Funny, isn't it, that men can be so easily fooled?

There's a man named Knight here, who is on the L. C. L. desk. He is like Connolly in a good many ways, only Connolly is a nervous, quick chap, while Knight is a patient, methodical man, and always does things like clockwork. Knight is one of the best and nicest men in the office. He began as messenger-boy in the telegraph-office, and worked up to the general manager's office.

They had never thought much of his ability, even then—that is, the clerks—because he kept his mouth shut, and wasn't in any cliques, until he was put on the L. C. L. desk, when he began to make improvements. He got out an L. C. L. loading-book—a tremendous job, for it tells how merchandise-cars are to be loaded, how they are handled on trains, what stations load to other stations, and a hundred other things; and finally persuaded Connolly to send him out on the line to inspect the handling of L. C. L. freight at stations.

He cut down the claims on damage to L. C. L. about a seventh, having started up a regular system of writing to the agent of any station from which freight was improperly loaded. Then he went to Cumberland, looked over the work there, and found out that by sending some of the cars that were distributed from there to another station he could stop the night-work at the Cumberland freight-house.

It saved the company two hundred dollars a month. Then he began consolidating L. C. L. cars, which had been running light, and managed to cut off twelve L. C. L. cars on the entire system. After that he began watching the loading of freight, and just managed to cut off another car by good stowing.

He was doing splendid work, when a college graduate who knew all about how to run a railroad, having once seen a picture of an engine in a book, butted in. He had been brought down in the office to handle statistical work.

Robinson began to find fault with Knight's work right off, and began a belittling system that finally reached Knight's ears. Knight went to Connolly one day.

"Mr. Connolly," he said, "I want to take my vacation now. If I might suggest it, let Mr. Robinson handle the work while I am gone."

Connolly agreed to let Robinson do it, for, although he is a smart man, he is a great believer in colleges.

They had to wire Knight to come back at the end of a week's time. Robinson kicked; said he hadn't been given enough of a chance to demonstrate his ability; but they made him get back to his work, and he learned it was best to keep his mouth shut, which he has done since.

I hadn't an idea there were so many difficulties to run up against in this work. A railroad office is the worst place in the world for forming cliques. One bunch of men get together and knock another bunch, and everybody works against the chief clerk when he is trying to get work out of them.

If he is hard with them, they hate him; if he is gentle, they despise him. About the only way he can get anything out of them is to coax them along.

I often wonder why Connolly doesn't lose patience. But, as you say, if he did he wouldn't be chief clerk. It looks like a cinch holding down his job, but he works for every cent he gets. He has to keep posted on everything that goes along, too, so that T. F. can leave things in his charge.

Don't think I am getting tired of the work, dad. It isn't that. I only didn't like to find out that people would try to dodge work, and little jealousies would start. I never would have thought it from the outside.

Give my love to mother, and tell her to write soon again.

Your affectionate son, JIM.

THE OLD MAN TO JIM.

DEAR JIM: Watch out you don't get the five-o'clock habit. So you won't, I'll describe the symptoms. About 4.50 you look over the work you have left, and begin to wonder whether it can't stay over till the following day.

By 4.55 you are sticking away most of it in a drawer of your desk, and rushing like a switch-engine with the rest, making mistakes, having to do it over again, and plumb wild to finish by five o'clock. The instant it's 4.59 slam goes your desk, you grab your hat, and try to sneak out of the office without letting the chief clerk see you.

Bad business, Jim! Suppose you were in business yourself? Would you close up at 5 o'clock sharp every day, whether you had finished or not? You bet you wouldn't. The harder you worked the better you would get along, and you would stick to your work until you got it finished. There's a big difference between working to get finished and working to get off.

Used to be a fellow down at the roundhouse at Martinsburg they called "Five-o'Clock Charlie." Charlie always had a weather-eye peeled for the clock. About 4 P.M. he'd begin to glance at the clock about every five minutes. Worried so about leaving on the dot that he hardly had time to do the work before him.

He'd work a little while, then sneak out, look at the clock to see if it was time yet, and feel injured because it was only 4.30. Charlie was a good worker, too, which was more of a pity, only Charlie didn't want sympathy. The roundhouse foreman was an easy-going fellow that hardly ever bothered the men much; and, anyhow, Charlie knew his work too well. He was the best man, barring the five-o'clock habit, that they had in the shops.

Well, sir, one day here come a promotion for the foreman, and who should get his job but "Five-o'Clock Charlie!" It was a big surprise to the men, but it was more of a surprise to him. He wouldn't believe it until he was officially notified.

ABOUT 4 P.M. HE'D BEGIN TO GLANCE AT THE CLOCK ABOUT EVERY FIVE MINUTES.

When he did know it, though, Charlie began to change. He used to come at 6.30 of a morning, and work till 8 P.M.; and he made those men hustle, too.

He cut off a big slice in expenses, and turned out to be the real thing. And why? 'Cause he was working for himself. He came to realize that he had charge of things, and he wasn't going to let a bad record go up for his work. Responsibility did it.

If you had a clerk working for you, and you were trying hard to make a success of your business by working hard, you wouldn't think very kindly of him to

have him standing around looking at you with pleading eyes when the clock struck five, would you?

Here's the point. When a young fellow starts working for somebody he's trying all the time, if he is any good at all, to let his employers see how much interest he takes in their business. Not by getting o' top of a box and bawling it to 'em, mind you, but just by doing it.

If you want to get along in any business, the way to do it is, look on it as yours, and work according. It *is* yours, too. Getting hired to fill a job means that they're giving you an interest in it.

Lots of people will tell you that doesn't mean anything, and point to themselves as shining examples of martyrs that sacrificed their young and fresh sweet lives to some cold-blooded, hard-hearted corporation, and talk about what would have happened if they had gone into some other business. Blowing off steam; that's all it is, Jimmy.

If they'd gone into some other business they would have had the same kick coming. What do you find out about 'em when you look 'em up? They bluffed at trying to do their own work, and knocked the other fellow's. They weren't working for advancement, or for the firm; they were working for the salary. And then, because they only got what they worked for, they kicked.

If a man wants to get anything out of the business world, he's got to put in hard work on it. It's the same way in a railroad office. Everybody can't be chief clerk. Ten to one the man who can best fill the place is the one that gets it.

You've got to study your job, so that you can do things with it. You've got to improve your work so that the boss will see you are capable of handling the bigger things. You've got to get his confidence, and the only way you can do that is to let him see he can depend on you. In other words, *work*.

There isn't any difference between a good farmer and a good clerk. They both put their ideas into their work, and get out according to how much they put in. But the people who fell down can't see it that way. They say they never got out what they put in.

They knock their work, and grumble, and don't take enough interest in it to make it more productive. They can't see that it's their own personal business, just as much as the man's who started it.

So they bang themselves in the eye, and try their hardest to kill every opportunity that comes along. Pretty soon, Opportunity gets tired of being continually chased away from their door, and never comes around again.

A man only has one life to live. This kind of man, instead of living it to get the most out of it he can, looks it over and shakes his head, and wonders why he got into the world that doesn't appreciate him. The trouble is, he don't appreciate the world. Treat it right, and it treats you right. Either way you behave, it gives you back as good as it gets.

It's got to look at the thousands and thousands of men in it fighting to get ahead of each other. Life isn't a picnic; it isn't even a half-holiday. Success is given to the fellows that work for it. That's the only way it ever comes to a man.

Some of these fellows that expect something for nothing will say that they put in hard work for a year, or for two, or even five years, and didn't get anything. Suppose a settler homesteads a piece of ground. He isn't going to get anything out of it but a living for more'n five years. He's got to get it in shape first. There's machinery to buy, stock, fencing, and a barn to be put up.

These men in offices get more out of their business farms than the settler gets out of his land farm. The majority of them make more than a living. The trouble is that they have to go to theaters, and take trips, and buy tailor-made clothes, and be good fellows; and, before they know it, they have as much at the end as when they started—sometimes less.

There are three ways of working. One is *work—work* with every bit of your ability. The other two are bluff. Which reminds me of Harris.

Harris was a first-class bluffer at work. He had all the fine points down. One of them was bringing down scientific books on railroading, and laying them on his desk with the title-cover up.

He would have some heavy work, like "Conditions and Aspects of Interstate Traffic," or "The Effect of the Railroad Upon Our Ultramarine Waterways."

Something like that. Haven't got the words, maybe, but it'll give you an idea.

One day he brought down a book marked in big white letters, on a dead black cover, "Mileage and Statistical Values of Railroads of the United States," with the first four words big enough to see a mile away.

That's what he got it for, too. It lay on his desk all day. T. F. came in and out a couple times, and he always was a great one for reading stuff like that, so you can bet he saw it right away.

Once he looked at it as if he wanted to pick it up, but he went on. And if Harris wasn't proud! The boys got together. It was rubbing it in too much. They borrowed the book from Harris, who tried hard to keep from looking conscious of his great learning. Sure enough, it was as they suspected. Not a leaf was cut in the book.

We contributed twenty-five cents apiece to the cause. I was running an engine then, but knew the bunch in the office, and they let me in on it—held the book a few days, and then laid it back on Harris's desk. For about three days it lay there, untouched, and showing up those big white letters, while T. F. passed up and down. Harris was getting a big reputation, meanwhile.

Finally, T. F. stopped at the desk one day, just as I had come in off my run, and was at the railing.

"Going in for railroading deep, aren't you, Harris?" he asked.

Harris looked up. He knew what T. F. meant, but it looked so much better to not understand him, as if it was only a small thing, after all.

"What do you mean, Mr. Fitzgerald?"

T. F. pointed to the book. "I've heard something about it. Is it good?"

"Oh, that!" The boys were beginning to sit up and take notice. "Why, yes." Harris looked up at him, and had the decency to blush. Then he plunged in: "The theory he advocates is fairly good, but his statistics are uncertain, so that it lacks the authoritativeness it should have."

One or two of the boys gasped at that, and little Billy, the messenger, began to snicker so that they had to hold his head on the blotter.

"You don't say?" says T. F., looking interested. "I understood it was a dickens of a good book."

"I think Sargent on 'Mileage and Taxation' presents a superior theory."

At that the messenger doubled up, but somebody held his throat so he wouldn't bawl out loud.

T. F. reached for the book, and opened it at the first page. He looked puzzled, turned a few more pages, grunted, and then looked at Harris.

"You've read it thoroughly?" he asked. His eyes were twinkling.

"As I have read Sargent or Stetson. In fact, I have studied this very carefully, so that I might give an unbiased opinion. I think it could be improved."

T. F. began to laugh. You could hear him a mile. He roared and roared, until half of the office force in the building was rushing to get in that particular office. And I wish you could have seen Harris's face. He knew there was something wrong, but couldn't for the life of him guess what it was.

The chief clerk came running over. "What's the matter?" he asked.

T. F. shoved the book in his hands. He had heard the conversation, and so he opened the book, after reading out the title on the cover slowly. He looked bewildered for a minute, then he read out the title on the *inside:* "Deadwood Dick, the Terror of the Rockies; a Collection of His Adventures."

At that we couldn't hold in any longer. I had to hold on to the railing, or I would have fallen. T. F. was grinning still, and the chief clerk looked puzzled, while Harris was first red, then white. The other boys were weak from laughter.

Of course, Harris suspected us. At first he was furious, and offered to lick any one with one hand tied behind his back and both legs strapped together, but he came around to see he deserved all he got. It taught him a big lesson. That's where he had sense. Other people would have laid down, but he held on, and started in to work. It made a man of him, too.

There's just one way of looking at your job, Jim. Be glad you have it. If you can't be glad, quit it, and start at something you will like; but whenever you get one you do like, *stick to it.* Put

I WISH YOU COULD HAVE SEEN HARRIS'S FACE. HE KNEW THERE WAS SOMETHING WRONG.

every ounce of you in it; don't let it be half done. It's going to stand for what you are, and the people you work for will judge you by it.

You may be the finest kind of a fellow out in society, and everybody will like you as a chum, and you'll get invitations by the dozen to parties, balls, and so on, but when you get to the bottom of it, it's your job that you depend on, and give that all that you would take for yourself. This is big stuff, son. You want to remember it. Think of it all the time.

And don't think I mean, by getting along, making money. Money doesn't mean success in this world. Being contented beats any other brand of feeling ever made. Not being contented with what you have, necessarily, but being contented with trying to do a little bit better than you think you can do.

If you lose out, you've put up a good fight. If you put up a good fight, you won't lose out. That's true to-day, yesterday, and to-morrow. Work, work, *work*. That's the song that beats in everything alive on this old world to-day.

Don't grumble. You only grumble at yourself. You're in a hive of bees, and the only way they keep alive is by working steadily. Keep your hands clean, my son, and stick to what is right.

I guess you will call this a lecture, too, Jim, but it isn't. It's the first bit of advice I've written to you, and I guess you'll do like most other young fellows—like myself, for instance, when I was young—disregard it. And, when I think it over, that's the only way to learn. Pay for your experience. You appreciate it when the price comes out of yourself.

Your mother sends her love, and wants you to reply to her last letter.

Your affectionate FATHER.

(To be continued.)

THE DISAPPEARING DIAMONDS.

BY ARTHUR M. CHASE.

Sherlock Holmes, Eugene Vidocq, or Arsene Lupin Couldn't Have Kept Track of Them.

THE Pullman swayed and jolted monotonously. Within the smoking compartment was the usual combination of odors—stale tobacco-smoke, stale air, a faint odor of leather cushions. Outside, seen through the open window, was a blur of darkness, interspersed with vague outlines of trees and occasional lonely lights.

It was the time and the place when one lights a fresh cigar, listens to the steady rumble and rattle of the wheels and the squeak of the couplings, and longs for something that will kill time.

"Oh, yes," said the Pullman conductor, sprawling luxuriously on the opposite seat; "I've seen funny things in a Pullman—mighty funny things.

"Thanks," he said, taking the cigar which I offered. "I'll smoke it when I'm off duty. Against the rules, now, you know.

"Yes, I've seen some queer things in these cars. People don't leave their human nature at home when they travel; and when you put twenty different specimens of human nature in a fourteen-compartment Pullman, and keep them there a day or so, why, sometimes the phenomena—I think that's the scientific word—are mighty interesting.

"Now, take the case of that old lady with the diamonds. She kept out the monotony on one trip. I was on the run that time, from New Orleans to New York, over the L. and N., to Montgomery, and the West Point line to Atlanta, and then up on the Southern Railway and the P. R. R.

"The old lady got on at New Orleans. Diamonds—say, she was plastered with them. Diamond earrings, and diamond pins and rings; she certainly was a dazzling, sparkling old fairy. Awfully fussy. You know the kind.

"You can hear one coming up the station platform, talking *at* the porter. She can't find her ticket, and her berth is on the wrong side, and she wants her berth made up before everybody else, or behind everybody else. When the window's up she wants it down, and when it's down she wants it up. What with ringing for water, and pillows, and the railway guide, and having the cinders brushed off her seat, and asking if the train's on time, and if not, why not—well, she keeps the porter on the hop.

"When that kind goes to bed you heave a sigh of relief—but you don't need to heave too soon.

"Even after the lights are out and the car is one beautiful vista of green curtains decorated with assorted shoes at the bottom, you know that the bell will ring from that berth, and the curtains will be agitated if you pass by, and a complaining voice or a frowsy head will greet you. That's the class the old lady with the diamonds belonged to and she was A1 in her class.

"Then there was the lady in the next

berth, who got on at Mobile. She was a Southerner—a fine, tall, dark aristocrat. And there was the regular assortment of drummers, and buyers, and tourists, and a couple on their honeymoon, an invalid man and a woman with a baby. And so, the whole assorted lot of us went jiggling on our way to New York, packed into fourteen compartments in the daytime and stacked up in twenty-eight beds at night.

"And every one would have made the trip as an individual, absorbed in his own affairs, and not giving a darn for the others, if it hadn't been for the old lady with the diamonds.

"Well, the first morning, when we were just out of Atlanta, that old lady sent the porter to say that she wished to see me instantly. I went, instantly, prepared for something out of the ordinary.

"'Sit down, please,' she said.

"'Did you notice my diamonds yesterday?'

"'Yes, ma'am,' I said, 'I certainly did. You were ablaze with them.'

"She nodded her head.

"'Do you see them now?' she said. I looked, and not a gleam, not a sparkle, not a glitter did I see on her.

"'No, ma'am, I don't,' I said.

"'They're gone,' says she.

"'I see that,' I said.

"'They've disappeared,' she said in a whisper.

"'Do you mean they were stolen?' I asked.

"'I think so. But hush, don't talk so loud. I don't want to arouse suspicion,' said she very softly.

"'All right, madam, but for goodness' sake, when did you lose them?'

"'I always take them off at night, and put them in a little leather bag, which has my monogram in gold on it—L. J. S. I put them in the bag as usual last night. This morning, when I was in the ladies' dressing-room, I hung the bag on a hook. I went to the dining-car for breakfast and left the bag hanging there. I'd no sooner ordered my breakfast than I remembered my diamonds, and hurried back to get them. But they were gone.'

"'Gone,' I repeated after her. 'My goodness, that's a bad piece of business.'

"'I should say so,' said she. 'Do you know what those diamonds are worth, young man? Forty thousand dollars, if they're worth a penny.'

"'Forty thousand!' said I.

"'Yes, forty thousand. And I don't want a hullaballoo raised that'll stir up the whole car, and scare the thief. I want to recover my diamonds, young man,' she said, setting her jaw.

"'Right you are,' I replied. 'Now, we'll proceed to business. Who was in the dressing-room when you were there?"

"SHE CERTAINLY WAS A DAZZLING, SPARKLING OLD FAIRY."

"'Not a soul,' says she.

"'And when you went back to look for the diamonds?'

"'Not a soul,' said she.

"'That's the first step,' I said. 'Now the second is this: Are you sure you haven't mislaid them somewhere about you—in your bag, perhaps?'

"'Do I look like a fool?' said she.

"'No, madam, certainly not,' I answered. 'But this is a serious business, and I'm obliged to take every possible step to find out where those jewels are. No one ever lost forty thousand dollars' worth of anything, or forty cents' worth, in one of my cars before, and I don't propose to break my record.'

"'You talk like a sensible young man,' said she. 'How about your portér?'

"'Well, Jim's an honest negro, but I don't know that he's proof against forty thousand dollars. I'll get my eye on him.'

"'Very good,' she said. 'And remember, young man, we'll just keep quiet a little while, and watch, watch, *watch*—and then *watch!*'

"'Well, I certainly admire your nerve,' I said as I left her.

"And when you come to think of it, she was a plucky old lady. Forty thousand dollars gone, and yet she kept her wits, and was as cool and determined as a man.

"I got up, and walked slowly toward the front of the car. But on the way I saw something which brought me back.

"IT SURE AM VANISHED!"

"'Well, ma'am,' I said, trying not to appear excited, 'I've had a glimpse of a little leather bag that might be yours.'

"'No! Where?' she answered, in one breath.

"'In a satchel of the lady in the next seat.'

"'What, that fine-looking lady who got on at Mobile?' she exclaimed. 'Oh, never! Isn't it awful? I'd never in the world suspect her.'

"'Trouble is, I can't be sure,' I said. 'I caught a glimpse of a little leather bag with gold letters, but it might be her own, you know. I'd have to make a break in a case like this.'

"'H'm!' said the old lady thoughtfully. 'I guess I can find out. You go on about your business, young man, and leave things to me.'

"I went on about my business. In a little while I saw the old lady sitting beside the Southern lady, and the two were hobnobbing at a great rate. After a while, the old lady walked carelessly back to where I was checking up my accounts.

"'She's got 'em,' said she.

"'Gee whiz!' I said. 'Sure?'

"'I know my own property when I see it.' She was a smart one, and no mistake.

"'All right, I'll accuse her,' I said.

"'Now, see here,' whispered the old lady, 'let's be a little easy on the woman. I'd rather not disgrace her publicly. Suppose you call her out to the vestibule and talk to her. She'll confess, when she

knows she's found out; and if she'll give the diamonds back quietly I'll say no more about it, and avoid a fuss, and the police, and a whole lot of horrid things.'

"Well, that seemed reasonable to me. So on some pretext I got the Southern lady to come out to the vestibule.

"'Madam,' says I, 'some valuable diamonds have been lost on this car.'

"'Is that so?' she said.

"'Yes, ma'am, diamonds, in a little leather bag with gold letters on it. L. J. S., in gold letters. You haven't seen such a bag, I suppose?'

"'I?' she cried. 'Why, how should I?'

"But she couldn't bluff a bit.

"'The owner thinks she saw them in your satchel,' I said.

"'She turned white, deathly white, and stared at me without saying a word. I tell you, I felt sorry for her. A man hates to see a woman look like that.

"'Now, see here,' I said soothingly, 'you bring me that little bag; I'll give it to the owner; and we'll all three keep quiet about it. Understand?'

"She understood. After a minute she turned without a word, and tottered into the car. She came back again, in a little while, tottering, and whiter than ever.

"'It's gone,' she said in a hoarse whisper.

"'Gone! The bag of diamonds?' I cried.

"She nodded.

"'Oh, come, ma'am; don't try to put up a game like that,' I said. 'You've acknowledged you took 'em; so it's up to you to tell where they are.'

"'Do you think I'm lying?' she said, her eyes beginning to glitter.

"'Now, ma'am, let's be sensible,' said I. 'You don't want me to call a policeman when we get to Charlotte, do you?'

"'But, I tell you, they're gone, gone, gone!' she cried. 'And I'm glad of it. I wish I'd cut off my right hand before I touched them. But I found them hidden in the dressing-room; and their dazzling beauty just made me crazy; and I—took them. And oh, thank Heaven, they're gone!'

"And then she began to cry as if her heart was breaking. I tell you, I hated my position. And I certainly was glad to feel the train slowing up for Charlotte.

"I jumped for the forward end of the car, relieved, I can tell you, to get away for a minute. And, by jinks! You know the little dinky closet in a Pullman where the porter keeps his pillow-cases, and broom, and coat? Well, as I headed up the aisle I saw my porter, Jim, pop something into that closet and bang the door before he scooted for the platform. I couldn't be sure, of course; I was ten feet away, but the thing he popped into the closet looked mightily like a little leather bag.

"When we were out on the station platform, I said casually:

"'Jim, what did you throw into your closet just now?'

"'Nuffin,' said he.

"'All right. I'll just take a look at that nothing when the train starts. And you stay right here by the car-step.'

"He stayed. But he turned just as near pale as he could.

"As soon as the train started, I followed him to the closet.

"'Get it out,' I said.

"He rummaged round a minute, and suddenly drew back with his eyes nearly popping out of his head.

"'It's gone,' he whispered.

"'What's gone?' I snapped. I was mad clean through.

"'Li'l' leather bag, with gol' letters,' he muttered. "It sure am vanished!"

"'So you stole it, did you?'

"''Fore Heaven, cap, I neveh stole hit. I done found it.'

"'Found it? Where?'

"'Cap, I swear I done found dat bag under de sofa in dat empty drawin'-room.'

"And that's all I could get out of him. He took me to the drawing-room and showed me where he claimed to have found it. I searched the drawing-room, I searched Jim's closet, I searched Jim.

"There was no doubt that the diamonds were gone again. And I found myself up against two mysteries—one, who put the diamonds in the drawing-room; two, who took them out of Jim's closet?

"The Southern lady proved an alibi on the second count. From the time I left her when the train was pulling into Charlotte, until I came back after my unsuccessful hunt for the diamonds, she

"HE SAT STARING AT THEM, SAYING, 'GEE WHIZ!'"

hadn't stirred from her seat. I proved this to my own satisfaction by questioning the people who sat near her.

"And if any one else had been fooling round Jim's closet while he and I were on the platform, no one in the car had noticed it. So there we were. Forty thousand dollars' worth of diamonds had been left in the ladies' dressing-room; had been seen in the Southern lady's satchel; had disappeared from there and been found in the empty drawing-room; Jim had chucked them into his closet; and from the closet they had disappeared into thin air.

"Well, the whole business simply mystified me. It put me in a state of mind where I was ready to suspect the whole carful of people of being occupied in hiding and stealing those diamonds from each other. Two had yielded to temptation, and I began to wonder who would turn out to be the next criminal.

"I consulted the old lady about it. She was worried, but full of grit. She said the Southern woman was very likely working with a confederate. Well, that was probable enough if she was a regular crook; but if she was a regular crook, she sure didn't look like one. The old lady advised me to keep quiet, lay low, and watch everybody.

"The next complication came when we reached Greensboro. There the husband of the Southern lady got aboard. It wasn't long afterward that he hunted me up and drew me into the smoking-room for a quiet talk.

"'Now, look here, sir,' said he. 'You're a reasonable man, I reckon, and I want to talk over this whole unfortunate business with you. My wife has told me of the very awkward predicament she is in, on account of those diamonds. Well, sir, she was wrong of co'se, absolutely wrong, dead wrong, to touch them. But we must make some allowances for women, when it comes to jewels. The sparkle and the glitter and all that sort of thing seems to fascinate them, and I reckon they aren't always responsible for what they do.

"'Anyway, my wife took the diamonds; but, mind you, sir, mind you, she hadn't one single little bit of an intention of keeping them. I know my wife, and I'm giving you that straight, sir, as one gentleman to another. If she'd found the owner, she'd have returned them instantly. She was afraid to trust them to the po'ter.

"'What she ought to have done, sir, was to turn them over to you. But she didn't think of that, and had made up her mind to wait and ask my advice, when I got on at Greensboro. And you can't blame a dutiful wife for that, can you, sir? Then in some way, you found out where the diamonds were, and this whole unfortunate business resulted.'

"I murmured something about its being hard lines.

"'I wonder,' said he, 'why that old cat left her diamonds in the dressing-room?'

"'Absent-minded, probably,' said I.

"'Let's go in there,' said he. 'I want to show you something.'

"Into the ladies' dressing-room we went.

"'Now, see here, sir,' said he. 'You see this heavy curtain across the door, and how the top folds over and hangs down a couple of feet? Well, inside that overhanging part, concealed by the curtain and the piece folded over, securely pinned there, my wife found that bag of diamonds.'

"'Gee whiz!' said I.

"'Precisely,' said he. 'My wife's attention was attracted by a little bit of brown cord sticking out from the green curtain. She investigated, and found the bag. Now, do you reckon that old lady absent-mindedly left that bag pinned up yonder behind the curtain?'

"'Of course not,' I answered.

"'Another thing. Who, besides you, knew those confounded diamonds were in my wife's satchel?'

"'The old lady,' I said.

"'Exactly. And another thing. Do you know that when the train was at Charlotte, and you and the po'ter were on the platform, only two passengers went to the forward end of the car where the po'ter's closet is? One of those two was the old lady.'

"'But, good gracious, you don't accuse her of stealing her own diamonds, do you?' said I.

"'I don't accuse, till I know,' he answered. 'I'm a lawyer, and I generally know where I'm going to hit before I hit. But it looks mighty funny, you'll admit.'

"'It sure does,' said I. 'But she'd be absolutely crazy to do such a thing.'

"'She might be crazy; she might be a criminal. Anyhow, I'm going plumb to the bottom of this business. And I'm going to begin by having a straight talk

"AND THEN—GUR-R-R WENT THE EMERGENCY BRAKE."

with that old woman who owns the diamonds.'

"He plunged out of the dressing-room and romped up the aisle. He was a fiery one, for sure—and the old lady was mighty peppery. I wasn't surprised to see fireworks going off in her compartment soon after the Southerner joined her. Finally things got to the stage where I had to go and take a hand.

"'I tell you,' the old woman was screeching, 'just as soon as we get to the next station I'll have a policeman search your wife.'

"'And I tell you, ma'am,' yelled the Southerner, 'I'll get the policeman, and he'll search you.'

"They were both on their feet, and white with rage; and then—*grr-r-r* went the emergency brake, and *bang,* over went everybody out of their seats. I, and the Southerner, and the old lady went higgledy-piggledy in a heap on the floor.

"Oh, it was nothing. Just a freight wreck ahead of us, and they're common enough on the Southern. But it laid us out on the track for seven hours; and all that time the Southerners in one compartment and the old woman in the next were just seething, and they were breathing out all kinds of threats against each other.

"The track was cleared up and we started on late that night. And everybody was still in bed when we passed Lynchburg. But early in the morning there came a loud ringing from lower four—the Southerner's berth. Jim answered, and came scuttling back in a minute, his eyes nearly all whites.

"'Fo' hebben sake, cap,' he said, 'go to number fo' quick. Gen'l'man like to kill somebody.'

"There sure was a ruction in number four. The Southern gentleman was just a cussing at the top of his voice.

"'What's the matter?' said I.

"'My trousers. Some scoundrel has stolen my trousers,' says he.

"'Oh, thunder!' says I. 'Were the diamonds in them?'

"'No, but it's lucky for you my gun was,' said he.

"Well, his trousers were gone, all right, though none of his other belongings were. He scurried into the dressing-room, and put on all his clothes except those needful articles, the trousers. And in the dressing-room he sat, a blanket round his legs, while the other passengers came in and made their toilets.

"Of course he, and I, too, tried to borrow a pair of trousers; but, as luck would have it, there wasn't an extra pair in any of the Pullmans. Mad? Well, that Southerner certainly was mad; but he was a good sport, too, and he took the jokes of the other passengers pretty amiably.

"'Only,' said he, 'if I find the scoundrel who stole those trousers, I'll surely make it hot for him.'

"He was eating his breakfast, which his wife had sent in from the dining-car, and he and I were the only ones in the smoking compartment.

"'You might find the scoundrel; but I don't guess you'll find the pants,' says I. 'I've hunted high and low for them. But if anything like that's stolen on a train the thief usually chucks it out of a window.'

"'Nothing much in them, so I don't care,' says he. 'I wonder if that old cat could have hooked them.'

"And he absent-mindedly stuck his hand in his coat-pocket, and—pulled out that very identical little leather bag with the gold monogram that had made all the trouble. I recognized it on the instant, but he didn't, never having seen it.

"'What in thunder's this?' he cried. When he saw all the diamonds, he was just dazed. He sat staring at them, saying, 'Gee whiz!' in a whisper, until the tray slid off his lap and landed on the floor with a crash.

"'It's a plot,' he yells, 'it's an infernal plot. And, by thunder, I'll spoil it. Run, you, fly, get me a pair of trousers! Pay for 'em! Rip 'em off the first man you see! Hurry up, or, by Jupiter, I'll pull yours off and put 'em on!'

"Well, I skipped out, and finally borrowed an extra pair from the conductor of the dining-car. The conductor was short and fat; the Southerner was tall and thin. But those pants didn't feeze the Southerner; no, sir, that man was simply about a thousand degrees above the boiling-point.

"UP THAT TRACK WENT THE THREE—THE FLAGMAN IN THE MIDDLE, THE OLD LADY SKIPPING ALONG LIKE A GOAT, ON ONE SIDE, THE TALL SOUTHERNER, WITH THE DINING-CAR CONDUCTOR'S TROUSERS, ON THE OTHER."

"He stalked into the car and sat down with his wife, absolutely disregardful of the joy of the other passengers. The only one who didn't laugh was the old lady. She sat right behind him, looking as sharp and sour as ever, and never cracked a smile. I stood at the door to see what was going to happen.

"All of a sudden the Southerner jumped up.

"'It's hot in this car, awfully hot, abominably hot,' he cried. 'Pull up the window.'

"And he pulled it up.

"'I can't stand this coat,' he shouted.

"'And with that he rips his coat off, kinder swings it round his head, stuffs it out of the window, and lets it go. And then the most remarkable part of the whole business took place. Before he'd fairly started to push his coat out of the window, that old woman was climbing over the back of her seat. By the time he let go, she had her arms round his neck.

"'Stop him, he's mad,' she screams.

"'Stop her, she's crazy,' yells he.

"Well, sir, that car was in a tumult. And before any one could gather his wits, that old woman just raced right over people and grabbed the handle of the emergency brake. Did she pull it? She just hung her whole weight on it, like a drowning man would grab a straw. And *bang!* For a second time that trip the train slowed up in a way that rolled people over like tenpins. Before the train came to a full stop, the conductor arrived in our car like a thunder-bolt, and the old lady grabbed him.

"'Back up,' she yells. 'Back the train up.'

"'What for?' shouts the conductor. 'Who done this?'

"There was a roar of answers from everybody in the car. The loudest

voices were those of the old lady, beseeching him to back the train, and the Southerner, ordering him to go on. That man, jumping up and down in the pants that didn't come within a foot of his shoes, was a sight. I thought I'd die.

"'Is this a madhouse?' roars the con.

"Well, we gave him an explanation, after a while. At first he threatened the old lady with all kinds of things for stopping the limited. But at last, he gave in to her entreaties and consented to hold the train thirty minutes while she went back to find the coat.

"Back the train, he wouldn't, not for a million dollars. So the old lady got off, and walked back with a brakeman who was sent out to flag anything following us. And the Southerner insisted on going along too.

"I can see them yet. It was a May morning down in Old Virginny. The sun was shining, the birds were singing, the fields and the trees were green. And away up that straight track went the three — the flagman in the middle, the old lady skipping along like a goat, on one side, the tall Southerner, with the dining-car conductor's trousers flapping round his legs, on the other.

"And clustered at the rear end of the train like bees, and spread all over the track, was the whole train-load of people. Laugh! Well, rather!

"If ever I saw a crowd enjoy a show, I should say that crowd was it.

"They came back in quick time, the old woman stony looking as ever, the Southerner wearing his coat, the flagman grinning from ear to ear. Then we all piled aboard, and the train went on.

"The old lady got off the train at the very next station—a junction about thirty minutes before you get to Washington. Up to that time the Southerner had refused to answer any questions, although he was pestered with them, of course. But after she left the train he went into the smoking compartment, and every man who could get in piled in after him.

"'Gentlemen,' he said, 'I was born in Kentucky, and my trousers were stolen this morning. Can any gentleman—thank you, sir,'—as a man handed him a flask.

"He stood up on a seat, unscrewed the top of the flask, and looked around.

"'I drink,' said he, 'to a modern Machiavelli—a female at that,' says he, 'a lady who has Mme. de Pompadour, Catherine of Russia, the Empress of China, and a few other clever intriguers licked to a frazzle'

"'In the course of this morning's ramble,' said he, 'I pieced out some guesses of my own with some bits of information. The name of my companion on that ramble I will not divulge, nor her place of residence. But I am able to inform you that she is a widow, her husband quite recently dead, and the will has not yet been admitted to probate.

"'By the terms of this will, the widow is to receive a certain sum—say one hundred and fifty thousand dollars. The remainder of the estate is to be divided among three children by a former wife. Now, the widow, being of a thrifty turn of mind, and not particularly fond of her stepchildren, conceived the clever idea of hiding her diamonds on this journey, and giving out that they had been stolen. By this ingenious scheme, if she had worked it, she would have lost nothing, and gained a lot.

"'She would still have received her one hundred and fifty thousand dollars, plus the diamonds which she secretly retained; while her stepchildren would have been out the value of the diamonds.

"'How the diamonds were transferred from my wife's satchel to the empty drawing-room, and from the porter's closet to my pocket are mysteries which the old lady has not seen fit to unfold. Very shrewd of her, though, to stuff the diamonds into my coat-pocket, when we all fell in a heap on the car-floor.

"'She was thinking, no doubt, that if I found them I'd think my wife put them there; and either I'd return them with shame and contrition to the old lady, or she'd have the pair of us pinched if I didn't. It's unfortunate that last night, when she lost her nerve and tried to steal back my coat, she should have got the trousers instead.

"'For in that pair of trousers was a flask, sir, which contained a liquor almost as excellent as that which this gentleman has kindly pressed upon me.'"

HELP FOR MEN WHO HELP THEMSELVES—NUMBER 29.

PRESSING PROBLEMS OF ROLLING STOCK.

BY C. F. CARTER.

THIS is the second section of an article dealing with problems of construction of rolling-stock. Last month Mr. Carter pointed out certain simple difficulties that have puzzled the railroads for many years, including the design of sleepers, steel cars, etc. This month he deals with atmospheric resistance, ventilation, and locomotive economy. Railroad problems are as unending as the whirling wheels that make their magic possible.

Is It Possible to Keep the Air Pure in Passenger-Cars? Some Attempted Answers to This Eternal Question, Which Still Awaits the Genius of Its Solution.

ON the Chicago-New York one hour train, Adams did some figuring, and found that, aside from any little difficulties that might arise from an imperfectly balanced driving-wheel sixteen feet in diameter, making 1,760 revolutions a minute, it would be impossible to use a whistle for signals. In order to make its thousand-mile run in an hour, the locomotive would have to travel at the rate of 1,466 feet in a second, while sound pokes along at only 1,090 feet in a temperature of thirty-two degrees. Waiting passengers, therefore, would never be able to determine whether the whistle they heard was sounded by yesterday's train or whether it was an advance signal for to-morrow's.

These statistics were so interesting that they whetted the reporter's appetite for more; so he did a little figuring on atmospheric resistance. Nothing authoritative was then known on the point, but according to the generally accepted theoretical formula, Adams found that the thousand-mile-an-hour train would have to encounter a resistance from the atmosphere of something like three hundred and fifty pounds to the square inch.

A New-Idea Train.

Such an extraordinary phenomenon interested the reporter so much that he was led to give the matter further thought, with the result that he ultimately invented and patented a train with sharp prow, smooth sides, roof, and bottom, and rounded stern, like a ship, to reduce the tremendous atmospheric pressure, and

thus effect the all-important saving in fuel.

Although he greatly overestimated the resistance of the atmosphere, Adams's ideas about the proper construction for a high-speed train have been conclusively demonstrated to be correct. In three runs on the Berlin-Zossen experimental railroad, made November 4, 21, and 22, 1903, the atmospheric resistance at eighteen miles an hour was found by carefully tested instruments to be 6.14 pounds per square foot. At thirty-one miles an hour, the pressure was 10.23 pounds; at sixty-two miles an hour, 20.47 pounds; at eighty-six miles an hour, 28 pounds, and at one hundred miles an hour, 32.75 pounds per square foot.

Taking ninety-seven square feet as the area of the car-end, the total pressure at one hundred miles an hour would be 3,176 pounds, which would neutralize about eleven per cent of the tractive power of the largest locomotive. In addition to this is the friction of the air on the sides of the car or train, and the suction pulling back on the rear end.

This was less than one-third the theoretical pressure, according to Smeaton's formula, which led Adams to invent his wind-splitting train. It was also ascertained that a sharp prow on the experimental train reduced the atmospheric resistance by more than one-half, the precise amount varying with the direction of the wind.

Resistance in Horse-Power.

Professor H. C. Solberg, of Purdue University, conducted some experiments with a model train to which delicate measuring instruments were attached. The train was placed in a tube twenty inches square and sixty feet long, through which currents of air were forced at speeds of twenty to one hundred miles an hour.

He found that fifty-nine horse-power was required to overcome the resistance of the atmosphere to a train eight hundred feet long moving at the rate of forty miles an hour. At sixty miles an hour the same train would have to overcome atmospheric resistance equal to one hundred and ninety-eight horse-power; at eighty miles an hour, four hundred and seventy horse-power, and at one hundred miles an hour, nine hundred and eighteen horse-power was required.

Professor Solberg also found that the pressure of the air on the locomotive was ten times greater than on a car in the middle of the train, and two and a half times greater on the rear car than on an intermediate car. Any one who rides for a mile or two on the observation platform of a train running at high speed will readily believe the latter assertion.

A Greater Problem.

The last word on atmospheric resistance was spoken by the Electric Railway Test Commission of the Louisiana Purchase Exposition of 1904, which continued its labors after the Fair was closed. In a series of experiments under service conditions on the road, the commission found the atmospheric resistance at eighty miles an hour to be ten times that at ten miles an hour. The pressures recorded were somewhat below those found in the Berlin-Zossen tests, but the theory on which Adams's wind-splitting train was designed was abundantly vindicated; for the commission found that at all speeds the atmospheric resistance to a car with a wedge-shaped plow was just one-fourth the resistance to a flat-ended car.

The necessity for the rounded stern on the Adams train became apparent when the measuring instruments showed that the suction on a standard vestibuled car held the train back with a force equal to sixteen horse-power.

While the railroad men of to-day are not worrying themselves about atmospheric resistance, they are, nevertheless, up in the air on the vexatious problem of ventilation, just as they have been since the first closed passenger-car was built. Furthermore, they do not seem to be very much nearer a satisfactory solution of the problem than they were sixty years ago, when the newspapers were saying such unkind things about the disgusting conditions in the cars of that primitive day.

A great many thousands of dollars have been spent by the railroads in the endeavor to find a satisfactory system of ventilation and heating, for the two should go together.

Away back in 1874, the Master Car-Builders' Association, which had been organized at Altoona seven years before, went exhaustively into the theory and chemistry of ventilation, and determined many of the essentials of an ideal system. Yet, the car-builders are still at tem. Yet, the car-builders are still at it.

Analyzing Air.

About the only accurate way to analyze the various conditions of the air in a passenger-car yet devised is to apply the carbonic acid test. According to the best authorities, a well-ventilated space is one in which the characteristic odor of a badly ventilated room is not noticeable upon entering it from the outer air.

There is always from three to four parts of carbonic acid to ten thousand parts of outdoor air. If the proportion is increased to six parts to ten thousand, the odor becomes perceptible.

A space may be said to be well ventilated, therefore, which does not contain more than six parts of carbonic acid to ten thousand parts of air. Physiologists tell us it is highly undesirable to breathe air containing more than seven or eight parts of carbonic acid, and to be decidedly injurious to stay long in a space containing ten parts in ten thousand; yet crowded theaters and halls often contain fourteen to eighteen parts, and street-cars as much as twenty-two to twenty-three parts.

Tests conducted by the master car-builders in 1894 showed eleven to twenty-two parts of carbonic acid in ten thousand parts of air in a sleeping-car, six to fifteen parts in a chair-car, and ten to twenty-one parts in a suburban coach.

A Weighty Problem.

The average person gives off six-tenths of a cubic foot of carbonic acid per hour. Sixty persons in a car would therefore exhale thirty-six feet of carbonic acid per hour, which would require 180,000 cubic feet of fresh air to dilute it so that the air in the car would not contain more than six parts of carbonic acid in ten thousand parts of air.

This is altogether too much for the railroad managers. The Pennsylvania Railroad, which has spent more money, time, and thought upon the subject than any other railroad on earth, was able to force ninety thousand cubic feet, or just half the theoretically desirable quantity, through a car with any sort of apparatus that wouldn't blow the passengers' hair off, but could only heat two-thirds of it.

Therefore, the management decreed that those who rode on the Pennsylvania Railroad were entitled to one thousand cubic feet of air per hour per passenger. They don't get even that much when the train is standing at a station, for the Pennsylvania system of ventilation only works when the train is in motion.

However far short of perfection the Pennsylvania system may be, it is far ahead of that on any other railroad. Pullman sleeping-cars of the latest design are ventilated exactly like a bottle; that is, you take out the cork and the air begins to circulate, going in both directions at the same time through the same aperture—perhaps. Pullmans do not have corks, to be sure; so they use little openings in the deck, by courtesy called ventilators, instead. By this arrangement the passenger in the lower berth gets all the heat, while the unfortunate in the upper gets all the air.

Hard to Please All.

After studying the subject more than forty years, the master car-builders have discovered what anybody could have told them at the outset—which is, that each passenger wants the heating and ventilation adjusted differently from the way any other passenger wants it. The committee on ventilation has hit upon a suggestion that will make half the passengers happy, and that is to provide fresh air openings at the end of each lower berth, which will be under the control of the occupant. A branch of the heating duct is recommended to be placed between berths opening into the aisle to heat the car in the daytime, these to be closed by the porter at night. The traveler in the despised upper gets nothing from the committee. He is denied a hot-air duct on the ground that all the heat would go straight out through the deck ventilators and be wasted.

But the troubles of the master car-

builders are by no means limited to the difficulty of providing passengers with something to breathe. There is the car coupler, for instance. One might think that, after all the legislation and all the discussion and experimenting that have been kept up without intermission from the beginning of things, there would be nothing new left to find out about couplers; but the committee on car couplers kept three men steadily employed for three months in 1908 gathering data about couplers.

Then the committee went over the data and spent a lot of its own time studying the subject, and then the convention had an animated discussion on it. Meanwhile, every road is engaged in a frantic search on its own account to find a better coupler, and to get the best service at least cost out of the couplers in use.

Rolling-Stock Repairs.

There are ten principal makes of couplers in use, not to mention some minor ones. While the master car-builders are fussing over details for an uncoupling arrangement that lifts up, some of the roads are making side and bottom operated couplers standard. Oh, no, the coupler problem isn't settled yet.

Another matter that is worrying the railroads is the question of repairs. It would seem to be the easiest thing in the world to settle this, since the obvious thing to do would be to send a car to the repair track when some of its parts were broken or worn out.

That plan has been followed in the past, but experience proved it to be unsatisfactory. The cost of repairs has kept increasing until it was realized that something had to be done. The solution determined upon was to send every locomotive and every car to the shops at stated periods for a general overhauling, in order that the ounce of prevention might obviate any necessity for the pound of cure.

That seemed easy, too; but when it came to specifying the length of those periods, the Pennsylvania Company found it so perplexing that it appointed a commission to weigh all the many considerations and determine the most economic period between shoppings.

Then, of all the seemingly insignificant problems, apparently the most insignificant is the problem of the car-stake. That bit of wood would seem to be beneath the dignity of even a railroad official gone economy mad.

But when the annual consumption runs up into a good many millions, perhaps some idea may be grasped of the reason why the lumbermen who have had to furnish the car-stakes at their own expense have made such a fuss about it. The lumbermen won their point at last, for they forced the railroad people to concede that the stake was part of the car, and should be furnished by the roads.

Wooden stakes that were used but once were altogether too expensive a luxury for any railroad. So, two years ago, a commission of seven lumbermen and seven railroad representatives was appointed to conduct tests of a telescopic steel stake that attached to the car, yet could be folded down out of the way when not needed. Twenty cars each were equipped with this stake by the Illinois Central, Pennsylvania, and New York Central, and have recently been started out on a service test. If they make a satisfactory showing, they will, in the course of time, be recommended as a part of standard equipment, and an ancient grievance of the lumber interests will be no more.

And so it goes on down the list. Every piece of steel or wood that enters into the construction of a car has been made the subject of experiment or observation in service. Any point that remains unsettled at the annual exchange of ideas of the Master Car-Builders' Association is studied by a special committee until a satisfactory solution is reached.

Capacity of Firemen.

The motive-power department also has its cares. For, if the man who pays the freight is to get the freight in time to turn it into money before he dies of old age, the railroads must find a better way to get coal into the fire-box of the locomotive than they now have. The locomotive-builders have been so industrious that they have produced bigger machines than a mere mortal is capable of supplying with fuel.

The limit of capacity for a fireman is about six thousand pounds of coal per hour, though it is alleged that men have fired seven thousand six hundred pounds in an hour. If he keeps up this average gait, or even anything approximating it, over a division of a hundred and fifty miles, he is "all in" at the end of the run.

In a test of the Erie Railroad's big Mallet articulated compound locomotive, probably the most powerful yet built, it was proudly proclaimed that the maximum coal consumption was fifty pounds per square foot of grate area per hour. As the grates are ten and a half feet long by nine and a half feet wide, this made a total of 5,000 pounds per hour.

With this amount of fuel, the locomotive climbed hills at a speed of six miles an hour. Unfeeling critics pointed out that the maximum fuel consumption was so low solely because firemen were unable to shovel any more coal over this corn-field, miscalled a grate.

Work for a Horse.

They said that experiments on a Western mountain road showed that the way to get the maximum tractive effort at ten miles an hour out of a locomotive was to feed it coal at the rate of one hundred and fifty pounds per square foot of grate area per hour. At this rate, the Erie Mallet would consume fifteen thousand pounds of coal in an hour. In other words, the fireman, to keep her hot, would need to have been born triplets. No wonder the firemen say that feeding a modern locomotive is work for a horse, not for a human being.

For this reason the American Railway Master Mechanics' Association has appointed a standing committee to supplement the efforts of the individual roads in a search for a mechanical stoker that will do the fireman's work for him. A number of roads have experimented with the several mechanical stokers already on the market with such satisfactory results that the committee of the Master Mechanics' Association reported, at the 1908 convention, that "mechanical stokers used on locomotives in this country up to the present time have at least demonstrated the fact that freight and passenger engines in road service can be successfully fired by mechanical means."

Human Stokers the Best.

This is encouraging as far as it goes, but it doesn't go far enough to suit anybody. The Erie, which conducted some rather extensive experiments, found the mechanical stoker consumed nearly sixteen per cent more fuel per ton a mile than the human stoker.

Other roads found the mechanical stokers would distribute the coal perfectly; but as the coal doesn't burn evenly on the grate, they concluded that the mechanical stoker would not be a success until one having eyes and brains was produced. The Chesapeake and Ohio, the first to experiment, has several mechanical stokers, but they are not in use.

Even the firemen are not satisfied with the prospect of being able to loll on the seat-box and read novels during their runs. But as both firemen and engineers objected to injectors and sight feed lubricators, and about every other improvement ever proposed for locomotives, perhaps they'll come around after a while. They'd better, anyway; for the railroads realize that they simply must have a satisfactory mechanical stoker, and with that end in view are investigating and experimenting with great energy.

A long train may be all empties. You can't judge things by their size.—The Freight-Traffic Manager.

Tail-lights don't show any track, but they're mighty useful. Don't be discouraged.—The Trainmaster.

Observations of a Country Station-Agent.

BY J. E. SMITH.

No. 20.—Our Correspondent Indulges in a Sort of Feast of the Pass-Over—Of the Good Old Days Before a Free People Legislated Free Transportation Out of Existence.

"THEY don't work us any more like they used to," said Chauncy, after I had settled in his cushion chair and put both feet on his table. "Ten years ago everybody had the combination to our pass-box. Now the dear public either comes up with the necessary simoleons or stays at home. That is what legislation has done for the people—took away one of their dearest privileges.

"Only a few years ago it was an honor and a mark of distinction to hold a pass. It showed the bearer had influence and was in possession of the mystic touch, knew the devious ways, and bespoke for him secret power and prestige.

"There was old Colonel Sputler over at Pippinville, a one-horse attorney in this horseless age—who carried his annual. Was dignified, and complimented by it, too. Always occupied the best seat in the coach; and as many of them, too, as he could—and went often. Loved to show the people that he rode on a pass. Always sat up exalted and pompous, and presented his annual to the conductor with a lordly flourish.

"That's where all calculations are wrong. You can't impress a conductor with a pass. After handling a thousand of them per week, he becomes insensible to any feeling or sensation toward the pass or the man that carries it.

"Then came the time when the colonel and other patriots parted with their annuals, and the colonel joined the *hoi polloi* to our ticket-window.

"The next convention they held to nominate a town councilman, the colonel arose and made a speech amid applause.

"'Is this the land of the free and the home of the brave?' he asked. 'No!' he shouted. 'We are a prostrate people, and the octopus [meaning the railroads] stands with one foot on our necks and fattens on our substance!'

"Of course, that's an ill-mannered thing for an octopus to do, and it is a deformed sort of an octopus to have a foot at all. Nice, polite octopi have tentacles only. But, however mixed the metaphor, the colonel reached the climax in thunder tones: 'We demand a two-cent fare!'

"Of course, you are ignorant of the ways of this wicked world; but it would

grieve you to know how many of our former guests joined in the cry for a two-cent fare.

"It would, indeed.

"Most of the patriots carrying banners in the crusade for one-third off had just been compelled to hand in their annuals under the new order, and to them two cents per mile looked like the next best thing."

"But they tell us—" said I, accidentally upsetting the ink over the ticket report.

"Never mind the report," said Chauncy; "I can make another. It is no trouble, be assured. I can copy it again from the ticket-book. It is a pleasure to do our work over two or three times. When a friend comes in radiating joy we don't care how much he musses up the interior arrangement with his hands and feet."

"But they tell me," I persisted, coolly cutting a notch in the table to show I was in no way disturbed, "that the cheaper you make fares, the more money a railroad earns. So many more people travel, you know, when they can go for two cents per mile, that the railroad makes a lot more money.

"It has always been a mystery to me why general passenger-agents can't see it that way. My old friend, Abe Balsaam, the postmaster at Sycamore Corners, explained it to me. Abe never rode a dollar's worth in his life.

"'How was it,' says he, 'when postage-stamps was sellin' at three cents apiece? We wouldn't sell more'n ten a week. Now, how is it? They're down to two cents, and we sell as much as two dollars' worth every week.'

"I asked Abe how about the deficit every year of ten or twenty million? Abe parried that by saying what the country needed was revision upward. 'It's the same with railroad tickets as postage-stamps,' Abe argued; 'the cheaper they are, the more you'll sell. Really, the way to stimulate travel is to give them away, and add green trading-stamps.'"

"In those good old days," said Chauncy, reaching over and deftly touching me for the cigar a friend had given me, "in those good old days the general passenger-agent was the most widely known and sought for personage connected with a railroad.

"The human herd congregated about his office, and lined up at all hours every day in the year. They were admitted to his presence, one treading upon another's heels in a continuous and endless procession. There was every type — the politician, the actor, the clergyman, the man with a new idea and the man with no idea; people with all sorts of designs, contraptions, and stratagems; all with the purpose of extracting a pass—to beat us out of a fare.

"LOVED TO SHOW PEOPLE THAT HE RODE ON A PASS."

"They are gone. The *hoi polloi* no longer treks to the g. a. p. office. The chairs and benches are vacant. A country graveyard quiet pervades the place.

"Occasionally a stranger, forget-

"'HOW WAS IT, WHEN POSTAGE-STAMPS WAS SELLIN' AT THREE CENTS A PIECE? WE WOULDN'T SELL MORE'N TEN A WEEK.'"

ting for the moment the present, and remembering only the benison of other days, finds his way in, and the g. p. a. wipes a tear from his eyes, shakes his head sadly, and says with quaking voice:

"'I can't do it. I can't! I can't! The law! The cruel and inexorable law! The rigid, unrelenting statutes of our land will not permit it. It is too bad; it is, indeed! They have tied us down, hand and foot.'

"The stranger departs.

"Then the g. p. a. lets out a hoarse automobile honk—a sort of exultant, rejoicing chuckle—known in past ages as a horse-laugh.

"Is the g. p. a. really sorry he has been deprived of the popular pastime of peddling passes?

"Is he? Just ask any of them.

"Those days will return never more," said Chauncy, with a sort of "quoth-the-raven" sigh. "When people travel now, all we can give them free is one of our folders printed in red, yellow, and green. Ten years ago it was different."

Chauncy lit the cigar he had purloined from me, and wafted a few vegetable ringlets in my direction.

"Ten years ago ticket-buying was a fine art," he said. "A good per cent of travel is in groups — always been that way.

"Whenever a party of people is to make a journey—whether lodge, church, or any other organization—there bobs up a bell-wether or two among the number to do all the talking and planning; and at once all the others defer to him and permit him to complete the details of the journey.

"Ten years ago the whole passenger business revolved around the central idea of carrying some one free. So you see at once the talkative and insistent member became the bunco-steerer of the rest of the party.

"He got his passage free, and took along on the same terms all his kith and kin that he could arrange for. In return, he delivered his following over to the road extending him the most favors.

"People are very much like sheep—they follow the lead. Only occasionally you find a fellow that actually does his own thinking. Almost every one is a blank on everything except the weather. You know this to be true from your own experience, don't you?"

I nodded a feeble acknowledgment. There came to my mind one particular recollection of the old way of handling passenger business.

There was a certain religious order near our town, and every year the members had an annual meeting.

Every year we had the same fight, and the same experience in ticketing the bunch.

Let us fix Mossback, Maryland, as the place for the annual meeting.

On the first convenient and opportune Sunday, up would arise Uncle Sol Shively, after a prayer or two, and solemnly address the congregation on a matter of "great importance."

Sol possesses a heavy sepulchral voice, a mass of jungle whiskers, and a rotund front. When words issue from a combination like that, they are always impressive and convincing.

After a saintly roll of his eyes, and piously folding his hands over his protruding anatomy, Sol would proceed something like this:

"Brethren and sisters, we are hoping you all will attend the annual meeting at Mossback for the spiritual strengthening you will get from it. As Matthew says, chapter four, seventeenth verse, 'It is good for us to be there.' But how are we to get there?"

Sol stopped and looked around and waited for an answer, but "echo" was not onto his job.

"I repeat," continued Sol, "how are we to git there? Them are the practical things that we have got to think about. And what does the good Book say about them that can't take the time and look into these things? Mark, four, chapter nine, 'You that have ears to hear, let 'em hear.'

"And what does that mean, brethren? It can't mean anything else, only that some of us has got to look into these things and tell the rest of you; and, hav'n' ears, you must hear. It is in the blessed Book just that way. And, then, about gittin' the best there is — ain't it plain as day in First Thessalonians, chapter five, verse twenty-first: 'Prove all things. Hold fast to that which is good.'

"Take the Q. and D. road that leaves here at three o'clock every afternoon, and only one change at Dismalville; and there you are at Mossback the next afternoon at five, three hours before dark. Time enough to make all arrangements. And you get a delightful daylight ride through the Looloo Valley.

"I have heard all the railroads tell what they have to offer us. I have 'proved all things,' and I am 'holding fast to that what is good.' I am taking the Q. and D. 'You that have ears must hear.' Let us pray."

After services the congregation would gather in clusters, in a brotherly, hand-shaking commingling, and Uncle Sol would tell about the elegant service and merits of the Q. and D., and round them up and extract promises and work and sweat to find out to a certainty just how many he could count on for the Q. and D. He would iron-clad and rivet the prospect by taking the names.

Then he would be horrified to find that another member was pulling for the B. and X. road. Personalities would be indulged in. Dark hints would be made, and the congregation would divide up into two camps over the merits of the Q. and D. and the B. and X.

Sol and the other one were bell-wethers. Back of each were the traveling passenger-agents of the two roads.

On the following day the two worthies

SOL POSSESSES A HEAVY SEPULCHRAL VOICE, A MASS OF JUNGLE WHISKERS, AND A ROTUND FRONT.

would drive to town, and each would meet by appointment at some sequestered spot a dapper young fellow, to whom the outlook would be reported. The young fellows were the traveling passenger-agents of the two lines.

The party would finally go only after the expenditure of a vast amount of diplomacy, intrigue, and cunning.

Of course, the bell-wethers would have the usual tickets along with the rest. They got them by shutting their eyes and holding their hands behind them.

Maybe you have heard that remark about the "power of the press." That is a typographical error. The correct reading was the "power of the pass."

Hundreds of people in those bygone days were misled over impossible routes, bad connections, and into all possible inconveniences of travel because the leader was secretly deadheading the trip.

The traveling passenger-agent had to be a resourceful sort of a pirate. He had to deal with the cupidity and gullibility of the people, and it was up to him to reckon to a certainty just how many paid fares could be produced for a certain number of passes.

The most cunning criminal of the lot usually got the business.

It used to be a proud moment in the life of the exalted ruler of the Independent Order of the Hoopoos when the order's annual gathering brought all the passenger men groveling at his feet. For then he knew that he and the secretary and the past grand would get all the road had except the ties and the goodwill.

Not that way any more these days.

People have legislated themselves out of all these grand gift distributions. Everybody pays but—so does father.

For even William Taft, before he could distribute that celebrated smile over valley and dale, hillside and mountain, prairie and desert, had to have an appropriation from Congress to "pay the freight." Jones doesn't come across with it any more.

"It is a mystery to me," spoke up Chauncy, "why the people don't sigh for a return of those golden days when gracious railroads distributed with free hand and lavish hospitality that greatest of all blessings—the pass.

"People demanded railroad legislation, and they got it just where the Plymouth Rock got the implement of the woodman. Then the representative from Posey County handed over his annual, the editor of the Clayville *Clarion* his mileage-book, and the newest minister of the newest sect his half-fare permit, and the railroad was enjoined, prohibited, and forever restrained from giving away its goods.

"Brains," continued Chauncy, puffing up a little, "and the real merit of your line, are what sells transportation in these practical days."

Recently there died the prince of deadheads. He earned this honored title, and maintained it proudly to the end.

Twenty or thirty years ago he was known all over the land as "The Immortal J. N."

He went from the Atlantic to the Pacific, and from Mexico to Canada, and recrossed and back-tracked through every State on every railroad, and some time in his life visited every town of importance in America and never paid a cent of car fare.

He was tall and majestic. His hair fell over his shoulders in long ringlets. He was neither clairvoyant nor astrologer, but always in reserve he carried the occult power to "remove the pressure" and "raise the veil."

He adorned the hotel registers with a distinguished flourish, but he never paid a cent for keep.

There were pomp and circumstance in his presence. He knew all the railroad officials and conductors throughout the broad land.

He never begged a favor. He was never cowed or confounded, humiliated or disheartened. He arose and stood superior to all surroundings and to all personalities.

In his hand he carried the mystic cryptic scroll, containing the secret of the universe, which solved all the riddles that make the existence of man a puzzle, and wherein was the power to dissolve with a gesture and a word the sun, moon, and stars into comet's tails.

When he rode on a train it was a favor to the road, and a matter of congratulation to the management to be able to extend the courtesy of travel.

All railroaders, great and small, knew the "Immortal J. N." and the mystic power he carried.

He was a restless traveler, never stopping longer than a day in one town.

Now and then a new conductor would hold out a witless hand for a ticket or cash fare, and the "prince of deadheads" would arise and thunder:

"Avaunt! I am the Immortal J. N.! Lay one hand on me, and I will 'remove the pressure!' Dare to molest me, and I will 'raise the veil!'"

There are not many conductors that want the veil raised; and knowing that that was the Immortal J. N.'s specialty, and that he could deliver the goods on the spot, they passed him up.

No conductor ever had the nerve or hardihood to put him off the train.

A few years ago the "Immortal J. N." joined all the prophets who have gone before. There were no convulsions of nature — no cataclysms when he went. No peals of thunder — no quaking of the earth—no darkening of the sun's splendor. One day the anchor-chain broke, the bark drifted away and went over the hazy horizon, and that was all.

Then a strange impulse seized the people.

The power and privilege of issuing passes was taken from the railroads, and all the deadheads—high or low, or of whatever degree—perished from the face of the earth, and the tribe was no more.

And the cause?

Known to philosophers and railroad men only.

The "Immortal J. N." had at last "removed the pressure." He had finally "lifted the veil." He had made good!

"I think you mentioned brains," said I to Chauncy, after a little. "You used the word in connection with the ticket business."

"So I did," replied Chauncy. "I informed you that all the business we get now is by direct dealing and by correct information. There isn't anything done like it was ten or twenty years ago. Did you see me sell that ticket to the young lady? Didn't you notice the elegance and polish of the transaction?

"AVAUNT! I AM THE IMMORTAL J. N.!"

"When you were selling tickets, you would have thrown the ticket and loose change on the counter and shove it over to her like dumping garbage. You notice I did not do it that way. I held the ticket and change between my fingers and dropped them into her gloved palm as delicately as if I were giving a little child a pretty flower."

"But you spoke of brains," I persisted.

"So I did," rejoined Chauncy. "I mean this: A man to run the ticket business under the new order has got to seize every opportunity to stimulate travel, arouse interest in places and events away from home, and have the instinct to follow up a hint, or a show of interest that may be developed into business.

"You do not seem to catch my meaning. I have gotten beyond you. As good luck has it, here is a chance to illustrate what I am trying to make clear to you. You see that man out in the waiting-room looking at the map of Florida?"

I had looked out through the ticket-window, and there was a man looking and tracing with his finger either a road or river in the State of Florida. He was the only passenger.

"I see him," said I, "but what about it?"

"Don't tell you anything, does it?" asked Chauncy. "To my discerning mind it tells me he is interested in Florida. Now, I will go out and talk to him and interest him, and before I am done he will know all about our line and our connections and our through service. Some day his interest will take him there. He will remember me and he will come straight to me again, because I have shown an interest."

Chauncy went out to the stranger and delivered his line of talk.

I followed him out and sauntered about with a desultory interest.

The stranger gave Chauncy a friendly nod; and at once, on this bit of encouragement, Chauncy launched forth:

"Ah, looking at the map of Florida, I see. Beautiful country! Land of flowers! Why, man alive, the possibilities of that country are just beginning to be known! All that land down there is the future garden-spot of the world. Now is the time to invest. After a while it will be too late, and people up here will wonder why they didn't see it before.

"Yes, that's the town of Kissammee where your finger is. I'll tell you a story about it. ne of our railroad stories.

"A woman from the North was riding on a Plant train one day, and behind her in the next seat sat a Southern gentleman; very gallant, you know.

"'Going to Kissammee?' says he to the woman.

"She grew red in the face, but made no reply.

"Thinking she hadn't heard him, he leaned forward and repeated somewhat louder:

"'Pardon me, but I say, are you going to Kissammee?'

"By this time the woman was enraged, and finally snapped:

"'No, sir!'

"'Pardon again,' said the man very coolly, 'I thought you were going to Kissammee.'

"This was more than the woman could stand. She sprang from her seat. She called the conductor and, frantically shaking her umbrella in the man's face, demanded that he be ejected from the train for repeatedly and persistently insulting her.

"'What did he say, madam?' politely asked the conductor.

"'He has asked me to kiss him two or three times within the last mile, and I demand that he be removed.'

"'I meant no offense,' apologized the man very humbly. 'All I asked the lady was if she was going to Kissammee.'

"Then the conductor explained to the lady that the next station was Kissammee, and made everything satisfactory."

Reaching the climax of his story, Chauncy chuckled gleefully.

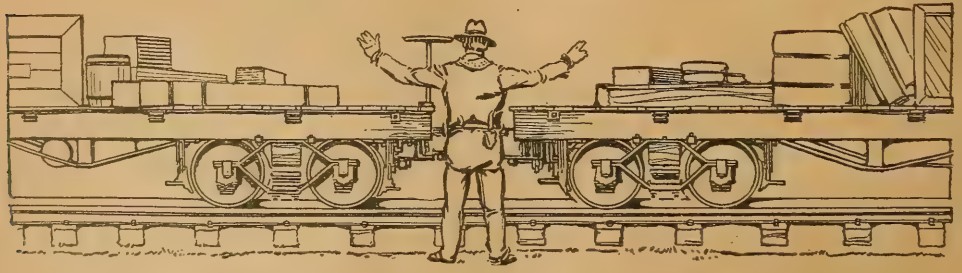
On the other hand, the stranger did not lift his eye from the map. Nor did he show the faintest sign of any emotion whatsoever.

But, stepping over to the ticket-window, he took a pad and pencil from his pocket and wrote:

"When a train for Kokomo?"

He was deaf and dumb.

"I thought you said brains," said I to Chauncy, as he slid for the office and I for the open.



Roll-Call of Veterans.

A Glance at the Glorious Roster of Men Who Link the Birth of Railroading to Its Present-Day Crowning Point.

ENTWISTLE CALLED HOME.

Stephenson's Fireman, and Afterward Engineer of the Rocket, Passes Away, Near the Century Mark.

SOME time ago we published a short sketch of Edward Entwistle, the man who fired the famous engine Rocket on her epoch-making run. We have now the melancholy duty of following up that sketch with an announcement of the death of the distinguished veteran, which occurred October 31 last, at Des Moines, Iowa.

Mr. Entwhistle was born in Tilsley's Banks, Lancashire, England, ninety-four years ago. At the age of eleven he was apprenticed in the Duke of Bridgewater's machine shops at Manchester.

It was in these shops that Stephenson's engine was built, and the boy took such a keen interest in the locomotive that the man whose name was to rank first among the inventors of the world took notice of him.

When the time came to make a choice of a man to help him in the running of the engine, young Entwistle found, to his astonishment and delight, that Stephenson had chosen him. For three trips he fired the Rocket, then he became engineer, and was engineer for two and a half years.

STILL ON THE RAILS.

Wildoner Is on the Active List Yet, and Claims the Distinction of Being Oldest Working Engineer.

JACOB WILDONER, who, according to the *Railroad Employee,* is the oldest locomotive engineer in active service in the United States, still answers to his name on the pay-roll of the Central of New Jersey. True he is not hauling flyers over the road any more, nor even way freights, but he has charge of the air-compressor and stationary engines at the famous "Fiddlers" shops of the company at Jersey City.

Mr. Wildoner began his railroad career in 1847, nearly sixty-three years ago, on the Switchback Railroad at Mauch Chunk, Pennsylvania. The line was then owned and operated by the Lehigh Coal and Navigation Company, which in turn was afterward absorbed by the Lehigh Valley Railroad.

Young Wildoner's first duties consisted partly in driving mules and partly in braking cars by the exciting and uncertain method of pushing a "sprig" between the wheel spokes. To quote the *Employee:*

"In 1848 Mr. Wildoner was transferred as fireman on the stationary engine located on Mount Pisgah, and in the following year he took charge as despatcher of operations at the head of the Mount Pisgah plane, having supervision over the train runners, remaining in that position until 1855, during which period he ran the first passenger-car over the line.

"In November, 1855, Mr. Wildoner entered the employ of the Lehigh Valley Railroad, which at that period extended between Mauch Chunk and Easton, Pennsylvania, as fireman of one of the five locomotives which composed the motive power of the road.

"In 1857 he was advanced to engineer, in charge of the locomotive Robert H. Sager in the South Easton yards, which position he retained until May 1, 1858, when he accepted service with the Lackawanna as fireman and extra engineer. His first assignment was the camel-back locomotive Connecticut, running between Scranton, Pennsylvania, and Hampton Junction, New Jersey.

"He afterward ran the Wilansing, a wood-burner, from Canademus to Delaware Station, hauling wood for engine supply.

"Mr. Wildoner remained in the Lackawanna service until December, 1865, when

he entered the employ of the Central in the year 1866.

"His first work for this company was setting up two new locomotives of Grant make, known as the Green Mountain type. These engines weighed thirty-six tons each, were equipped with eighteen by twenty-two-inch cylinders, and were the largest and most powerful owned by the company at that time. Mr. Wildoner was given charge of one of these engines and ran her to Hampton.

"At this time wood was the universal fuel for locomotive use and wood stations were located along the Central at Bloomsbury, Asbury, and Clinton (now Annandale), and workmen were employed continuously at White House and Green Brook cutting up old ties for engine supply.

"Mr. Wildoner ran a locomotive on the Central continuously until December 9, 1893, when, on account of losing the sight of one of his eyes from an engine spark, he was compelled to accept other employment, and has been located at 'Fiddlers' in his present capacity since, a position created by former General Superintendent Olhausen, in recognition of long and meritorious service."

OLDEST EAGLE-EYE DEAD.

Tatem Parsons, Engineer of the John Bull, Was In from the Beginning of American Railroads.

TATEM PARSONS, the oldest engineer on the books of the Pennsylvania, died at Camden, New Jersey, on the 4th of November last, at the age of eighty-nine. Parsons was famous by the fact that he was the engineer on one of the pioneer locomotives in America, the John Bull, which ran on one of the earliest roads—the Camden and Amboy.

He was probably also the oldest locomotive engineer in the country. Commenting editorially on the passing of the veteran, the New York *World* says:

"The first rail of the first American railroad was laid July 4, 1828, by Charles Carroll of Carrollton, then the only living signer of the Declaration. As President Hadley wrote in 1885, 'one man's life formed the connecting link between the political revolution of the last century and the industrial revolution of the present.' One man's life, again, joined the beginnings of the railway with to-day.

"There are many people in America who can remember 1830, though possibly none who in that year worked on the railway. Tatem Parsons's one life covered the growth of an industry whose tracks in the United States alone are long enough to run one hundred and twenty lines from New York to San Francisco, whose 'train mileage' for a year would encircle the earth fifty thousand times, and whose capital almost equals the total wealth of the nation at the beginning of the Civil War."

THE OLDEST OPERATOR.

F. H. Zimmerman, Who Retires on a D. and H. Pension, Seems to Have a Distinct Title to the Honor.

AFTER over fifty-three years of service, F. H. Zimmerman, of the Delaware and Hudson, and probably the oldest active railroad telegrapher in America, retired on a pension on October 1, last year. Mr. Zimmerman has been night ticket-agent for the Delaware and Hudson at Binghamton since 1890.

He was born in 1837, and entered the railroad service in May, 1856, joining the Lackawanna as track laborer.

He afterward spent two years in the train service, and became operator at Henryville in 1859.

He remained there for three years, when he was transferred as joint agent of the New Jersey Central and the Lackawanna to Hampton Junction. In his next position, with the American Telegraph Company, at 145 Broadway, New York, he was brought in constant contact with Professor Morse, and Cyrus W. Field, the father of the Atlantic cable.

On June 20, 1864, Mr. Zimmerman was employed as operator in Syracuse, New York, and was employed at different points until December 1, 1865, when he accepted service at Great Bend, Pennsylvania. He remained there for six years, working on both the Erie and Lackawanna roads.

On November 21, 1871, he went to Corry, Pennsylvania, with the A. and G. W. Railway, where he remained until May 1, 1872, when he resigned and went back with the Erie at Great Bend, where he worked until April 6, 1874.

He then joined the New Jersey Central as operator at Elizabeth, New Jersey, and on May 22 he for the second time became stationed at Hampton Junction, where he worked as operator and ticket-agent for fifteen years.

In 1862 the joint salary at Hampton Junction was $30 per month. In 1863 it was advanced to $35.

THE DAM-BUILDERS.

BY BANNISTER MERWIN,

Author of "The Girl and the Bill," "The Sword of Tarroloys," "The Corner."

Fate Chooses for Thekla, and She Rides at Night Out of the Valley.

SYNOPSIS OF PREVIOUS CHAPTERS.

LARRY SMITH and Jack Marly, being in possession of some valuable water-rights, are building a dam, Smith being the engineer and Marly supplying half the capital. The other half of the capital is supplied by a Denver capitalist named Briggs and another man named Garth. Briggs comes to view the work, and while there he drops half of a broken shilling, which Marly picks up. The capitalist is interested as a money-lender, and not as a partner, and he holds a mortgage on the dam and all the rights, subject to a time-limit for the completion of the work.

Jack finds that Garth, Briggs, and Murdock, the contractor, are playing a double-cross on Larry and himself. A walking-delegate tries to organize the men, and Jack orders him off the place. It is evident that he is paid by Briggs. There is a scrimmage, in which the walking-delegate loses considerable dignity and some skin.

Jack falls in love with Thekla Wist, daughter of the head man of a Norwegian settlement. The Norwegians are suspicious that the dam project will flood their farms, and they are very bitter. Wist opposes Jack, and Thekla is compelled to choose her father.

CHAPTER X.

The Stampede.

THE Saturday which saw the pipe completed was a hard day for Jack, and it followed a night of emotional stress. He had come to see clearly—first, that he loved Thekla Wist so greatly as to make everything in his life secondary to that love.

He realized, too, that she loved him. Else, why had she wavered when he made his appeal to her? And with a fineness of perception that was almost feminine he discerned the reasons why she had, at the last, turned to her father.

Self-reproach for a dissatisfaction which she had, perhaps, regarded too tragically was surely in part responsible; but more than that, she had been—she must have been—frightened by the strangeness of her suddenly discovered passion. Therefore, she had sensitively thrown herself under the protection of a love which was as old as her own years—the love of her father. Her father's call had aroused in her the maiden instinct of flight to a shelter which might be rude, but was, at least, safe.

And how well Peter Wist had said just the right words! The old Norwegian had spoken from an insight that was a high credit to his understanding of his daughter.

He must have recognized the painfulness of the contrast between her life in the valley and her life when she had been out in the world, acquiring the wider view which he, doubtless, had wished her to have. If his demand upon her seemed selfish, it was nevertheless dictated by sentiments that appeared to be worthy.

Peter Wist was not a father to be ashamed of. The faults of crudeness that had made her suffer when she returned to him, fresh from an environment where that kind of crudeness was not known, had taken on exaggerated im-

portance in her mind for the very reason that they were so foreign to what, for several years, she had been accustomed to see. But the man's rugged qualities were too strong for him to be in any sense contemptible.

Jack even found himself excusing the stubborn suspicions which Wist held toward himself and his associates. A little community of foreigners which had wrested a home from the desert might well fear the advance of industrialism. The lies had come from fellow-countrymen—men whom it was most natural for them to believe.

Thekla, in time, would realize this fact, and she would, moreover, forget her father's faults in her recognition of his worth. That would be when she was not bound to the dreariness of a life in "Sweden"; when, with Jack as her husband, she would live in the larger world of the opportunities she most desired, giving to her father only so much of her time as a husband might be expected to surrender to him.

For Jack had not the least belief that Thekla and he were not to come together again. The issue was sure to broaden until it included both her father and her lover.

He longed to go to her that day, but common sense held him back. She must have time herself to work the problem out—to accustom herself to the recognition of the new yearnings of her own heart.

About the middle of the afternoon, Murdock's men came straggling up from Klingerman Pass, bringing their outfits with them. Larry, who had been spending several hours in an inspection of the completed work, was not far behind them; and after his arrival, in the midst of the confusion which attended the rearrangement of the outfit in its old quarters, Jack found him estimating with thoughtful eyes the work that remained to be done on the dam.

"Well?" queried Jack.

"Well, we are close to the end. Four days more!"

"And those are the days of our greatest danger, Larry. Briggs will try his best to choke us now."

"Yes," admitted Larry.

"Bill Murdock will surely keep on wasting our spare time. I have wanted to strangle him a dozen times lately."

"Keep cool, Jack."

"Oh, I will," Jack laughed. "But I haven't had your chance to learn patience through experience, Larry."

"It will be a queer irony," muttered Larry, "if those few courses of the dam prove our undoing. The simplest, easiest part of all."

"Our agreement with Briggs shouldn't insist on those last few feet of the dam, Larry. We can supply more power now than we can sell for the next year."

"But you remember that the agreement reads: 'All the construction-work complete as specified.' However, that isn't the thing that's bothering me just now."

"No?"

"I'm wondering how those fellows"—he nodded toward the workmen's tents—"will take the order to work to-morrow."

"Sunday?"

"It won't be safe not to make them—and it is risky to ask it of them in their present mood. There's the problem."

"Offer 'em double pay."

"Of course!"

"Triple pay!"

"M—yes."

Murdock approached, glancing at his watch as he came. "It's four o'clock," he began. "Hardly worth while to put the men on the dam to-night."

"What's that?" snapped Larry.

"I say it's hardly worth while to put the men on the dam now. By the time the engines get a goin' an' the cement's mixed, it'll be about time to quit."

"You put those men on the job at once," said Larry firmly. "More than that, you work them to-morrow—double time. Do you hear?"

"Yes, I hear, Mr. High-and-Mighty," sneered Murdock. "But when you've handled hobos's long's I have, you'll be a durned sight wiser."

"Don't waste time talking to me. Get your men to work."

"All right—all right. Just as soon as McGuire finishes payin' 'em off."

"Paying them off?" Larry stared at the contractor with angry surprise. "Why, in the name of Heaven, are you paying them now?"

"They get their pay Saturdays. You know that well enough." Murdock spoke confusedly. He was kicking at a pebble on the ground. "I didn't suppose you'd insist on their doin' any more to-day, an' I thought they'd feel a lot better about things if I gave 'em this hour."

Larry had suddenly become strangely calm. "Put them on the job, Murdock," he said quietly; and there was that in his voice that made the contractor hurry away toward the tents.

Larry turned to Jack. "It's coming!" he said.

Jack nodded.

"If we had tried to worry things along," continued Larry, "they would have raised Hades with us later on. Better have it over with!"

"Right!" said Jack.

Suddenly they heard a low roar from the tents—the sound made by the collective human animal when it is angry. Out into the open swarmed a hundred men, Murdock battling in the midst of them, fighting his way to the outer edge of the crowd.

He got free, and, running to one side, stood looking at the turmoil with a malicious smile. There was no more to follow him. The men had not turned on him; but he had been caught in their rush, and those nearest him had handled him roughly.

At first, Jack thought that he and Larry were the object of this angry excitement. He expected an attack, and braced himself, resolving to go down fighting; but a glance at Larry caused him to relax his tense muscles. The engineer was standing in the easiest of poses, a faint smile on his brown face.

And now the men were forming in a dense group about a cement barrel. A man was climbing upon the barrel — a stocky man, whose face, as he struggled to his feet and turned to face his excited audience, was made peculiarly sinister by the gleam of his prominent upper teeth.

"O'Neill!" exclaimed Jack.

Jack and Larry had not known that the walking-delegate was among the men, but Bill Murdock must have known.

A hoarse cheer went up, and the mountains flung back the sound, for they would have none of it, so roughened was it by animal passions. Then the delegate began to speak.

His appeal was altogether to their greed. He contrasted their condition with the condition of the men who employed them, and urged them to unite now, at the time when their masters most needed them.

"Youse can win!" he shouted. "Youse can have what you want, if you act together. These bloodsuckers can't get along without you, an' youse can make 'em treat you right."

Murdock, meantime, had not budged from his position. It was plain that he had no intention of interfering. Jack reasoned that Murdock had made his own arrangements with the delegate.

"These fellers shows that they needs youse when they tries to make you work Sunday. Men, don't you do it! Let 'em find out what it is to get along without youse.

"Come with me to the hall at Larkin City, an' I'll organize youse to-night. Monday youse can tell 'em your terms. Don't give in now, men. Youse are all together. Now's the time to show what youse are made of."

"That's right!" They were shouting. "That's the stuff! Give it to 'em again, O'Neill!"

"Hold on!" Larry had stepped to the outer edge of the group, and he raised his hand to get O'Neill's attention. "Hold on there! Let me say something!"

"Don't you listen to him, O'Neill," cried one of the crowd.

"Make him shut his mouth!" yelled another.

But O'Neill hushed them all. A cunning smile appeared on his face.

"We believe in fair play, even if the other fellers don't," he said. "Ain't that right?"

"Right you are!" "Good boy, O'Neill!" came the answers. A silence fell upon the crowd, which the moment before had been as restless as a herd of cattle at the edge of a stampede.

"Now, then"—O'Neill turned to Larry—"what you got to say to us?"

"Just this," Larry was still smiling, "if these men have any grievances, they

lie between themselves and Bill Murdock, the man they work for. You have been talking as though they were working for the company. You know very well that the company hasn't anything to do with their wages. That's Bill Murdock's affair."

"Get it straight, friend — get it straight," O'Neill broke in — and Jack edged nearer to Larry as a murmur ran through the crowd. "The men are workin' for Bill Murdock, you say?"

Larry nodded.

"An' Bill Murdock's a workin' for you, ain't he?"

"Yes," replied Larry.

O'Neill shrugged his shoulders. "That's all I got to say about *that*," he remarked.

The men, as they felt the force of the rough logic, laughed. Their champion had scored.

But Larry had not finished. "Your point, then," he said, "is that the men are really working for the company."

"That's about it!"

"That being so"—Larry spoke slowly, distinctly—"that being so—and I am speaking, not for Bill Murdock, but for the company—I offer them double pay from now on if they finish this dam before next Thursday. Is that fair?"

The men were silent. O'Neill lost his smile.

"That," continued Larry, "means bigger wages than have ever been paid around here before. What do you say, men?" He turned to the crowd. "Will you stand by the company?

"You have labored hard to see this job through. Are you going to quit now, a few days before the finish, just because that cheap skate tells you to? If you have not been satisfied before, you can blame Bill Murdock. Has *he* ever offered to double your wages?"

"He couldn't, at the rate youse pay him," exploded O'Neill.

"What do *you* know about that?" demanded Larry with a swift, stern glance at the delegate. "Bill Murdock has never complained to the company that we weren't giving him enough for him to treat his men right.

"Now, the first time the company hears a complaint, it offers you men a square deal. That's all you want, isn't it? A square deal! Men, it's really *more* than a square deal."

"He's bluffing!" yelled O'Neill suddenly. "Who ever heard of 'em doubling wages when there was plenty of time and to spare? An' how do youse know he's got money? He ain't the only member of this company."

"I'm the man in charge of this job," said Larry.

"If youse take his word for this, youse'll be sorry. He's trying to gain time. Listen to his fine words, an' youse'll be lookin' into the muzzles of Pinkerton revolvers nex' Monday mornin'."

"Double wages, men!" said Larry firmly.

The situation hung in the balance. Among the men, opinion was obviously divided. The more thoughtful of them knew that they had no grievance against the company, but all of them were intoxicated by the newly inspired consciousness of their own power. Larry's offer had, for the moment, put a check on the delegate's influence; but even Jack, who had never witnessed such a scene before, knew that O'Neill would not give up easily.

As for Murdock, he had slowly backed away. His action might have been ascribed to fear; but the partners, at least, realized that the contractor's chief purpose was to keep out of the discussion. Presumably, his part in the game was, by arrangement, to be entirely passive.

O'Neill went at the men again. He cited instances in which employers had broken promises. He insisted that Larry could not be sincere in making so high an offer.

"He's trying to keep youse from organizing," he said. "It's cheap for him to offer double wages for four days when he knows it will help him to gouge youse on the next job."

"We don't object to the men organizing," Larry interrupted. "Organize 'em here—now—if you want to."

"He knows I can't organize youse here," screamed O'Neill. "He knows youse have got to come to the Stonemason's Hall at Larkin City, where the ritchool can be carried through. Come on to Larkin City, boys. Come now!

"Come and meet the rest of the bunch, an' have a good time an' talk this thing over. Don't decide here! Think it over! Youse can't do more work to-night nohow, an' if youse decide to accept the company's offer an' go to work to-morrow, you can come back. That's fair — eh, Mr. Boss?" He leered at Larry. "That's the square deal all around, boys—no harm done, an' a good time thrown in."

The effect was magical. Silver chinked in a hundred pockets, and, with a shout, the men rushed to the tents for their hats and coats. Within five minutes they were streaming down the road, calling to one another, singing—acting like boys out of school; and in the midst of the procession was the triumphant O'Neill, surrounded by those who were most eager to drink of his promises.

CHAPTER XI.

The Beat of Horse's Hoofs.

"IT'S all over," said Larry grimly as the last man passed them. He had tried fruitlessly to stop several of them and induce them to listen to him.

"They won't come back," replied Jack gloomily.

"No, they won't come back. O'Neill will spread the rumor that Aaron Garth, who is known to be half of our company, won't stand for my offer. Whisky will do the rest.

"There might have been a chance if Garth hadn't the name of being so close-fisted. His character will bear out the rumor."

"Where are Jones and Armsby and Ives?"

"I had to send them to the city on business. Somebody has to look after matters in our office there, and I didn't dare leave the work."

"And the machinery men?

"They went this noon. Two of them are staying in the city till the middle of the week, when they are coming up to start things."

"Then, besides ourselves, there isn't a man left in the camp, except old Madden at the corral."

"And Wing Fah."

"And Bill Murdock!" Jack's mouth tightened. He took a step toward the contractor's tent.

"What are you going to do?" asked Larry with a curious smile.

"I'm going to settle with Bill Murdock."

"Let him alone." Larry seized his arm. "It won't do any good. The sooner he leaves, the better."

Presently Murdock walked toward them. He looked worried and embarrassed — assuming the manner of being ashamed of his own incapacity.

"You done fine," he said to Larry. "Nobody could 'a' done more. If I'd gone among 'em, they'd have murdered me."

Jack turned his back. Seeing Murdock, and knowing his contemptible trickery, it was hard to keep his hands off the man.

"I'll take a run down to the city an' see what I can do about roustin' out some more men for Monday. I won't take any of those hobos back." He made a show of bravado; but when Larry did not answer, he beat a quick, silent retreat.

They saw him go to the corral and get a horse and take a slow pace down the cañon—slow enough to avoid coming up with the rear of the marching men.

"That's the last of Bill Murdock!" exclaimed Larry.

"He'll be back!"

"But we sha'n't deal with him any more."

They stared gloomily at the unfinished dam. Massive, strong, it lifted itself from the cañon floor, a gray wall from slope to slope. It was a thing of Larry Smith's mind—an embodied ideal of a triumph over nature.

Deeply founded was its mighty concrete base. Its sluices were marvels of nicety. Three times the water that would normally fill the reservoir might push against it, and it would not yield.

But, along the top, those unlaid courses! The work of a few days, lacking! And for want of those few days of labor, the labor of two years would count as nothing for Larry Smith and Jack Marly.

Dejectedly they climbed up to the shack. Mary was waiting for them. She made no assumption of artificial good

cheer, but smiled gravely in greeting. "I saw it all," she said. "Was it a strike?"

"Something like it," sighed Larry.

"Will they come back?"

"No!"

"Sit down—here, where it's cool; and I will bring you some tea."

They threw themselves down on the ground before the shack, and she brought them steaming cups.

"To-morrow," she said, "you will be going down to Larkin City to get more men."

"We can't," replied Larry. "There are no men to be got. Our friends, the enemy, have seen to that."

"Then you will telegraph to other cities for them—even as far as Denver, if you have to?"

Larry was silent.

"Isn't that the way?" she asked cheerfully.

"Yes, that's the way. We shall try it, of course. But it's only about an even chance that we shall get them. It goes without saying that no union man ever will come to us—now."

"Why not, dear?"

"O'Neill, the man who made the trouble here, will keep them back."

Jack took the broken shilling from his pocket and eyed it ruefully.

"I've a good mind to throw you away," he said to it. "I thought you were lucky, but now I believe you are a hoodoo." He drew back his hand to fling the bit of metal far.

"Don't throw it," said Mrs. Larry. "Do you honestly believe in luck, Jack!"

"I believe in believing in luck," he answered. "Believing in luck is what makes luck."

"Then keep your piece of coin."

He returned it to his pocket.

And so they talked on, and gradually it came about that their situation did not look so black. Larry remembered the name of a Denver contractor who worked with non-union men. He might be able to come. It was worth trying.

They figured, too, how the completion of the dam could be hastened by putting on night-shifts. By that plan, three days might suffice, and, at a pinch, the work need not start until the following Thursday morning.

Oh, they would beat Thomas Briggs yet! When he, or his representative, came to view the work, on the thirtieth, the dam would be ready, the reservoir would be partly full. More and more hopeful the partners became; and it is doubtful if either of them realized how well their spirits had been ordered by the persistent influence of Mary's steady sanity.

The afternoon waned into evening, and the evening darkened into night. A gorgeous sunset had been blotted out by purpling clouds, which slowly inked the sky and hung, low and sultry, above the cañon. So dark it was that when Larry and Jack went down the path to look at the dam, and to see that Madden had found food for himself, they took a lantern.

"I'm coming, too," said Mary. "To-night the darkness seems so awful, so portentous, that I don't want to be left alone."

Larry helped her down, while Jack swung the lantern for them; and after a few words with Madden, who took his situation as became an Irishman and a philosopher, the three of them walked back past the empty, ill-smelling tents and the squat power-house, which nestled in its hollow below the dam, and up the incline at the right to the top of the dam itself.

"See," said Mary to Jack, "this is built to succeed." She tapped the granite top of the dam with her foot.

But Jack was thinking of Thekla. He strained his eyes into the darkness, striving to picture her as she had looked in that moment when she had been so nearly ready to come to him.

Mary turned to her husband. "Jack is moony about something," she said. "Do you know where he has been riding almost every afternoon lately?"

"I've been too busy to notice," replied Larry, lighting his pipe.

"Don't you think it odd," she went on, her eyes twinkling, "that he should take an extra saddle-horse when he goes up the cañon?"

"Does he?" Larry showed surprise. "What have you got to say to that, Jack?"

But Jack was raising his hand to silence them.

"Hush!" he said.

Larry laughed. "Jack won't even let us talk about it," he exclaimed. We must get at the truth of this."

"Listen!" said Larry. He was leaning forward, peering into the darkness up the cañon; and while they wondered at him, he scrambled to his feet and went bounding away from them along the top of the dam.

Then, startled, they heard what he had heard. Out of the distance, from far up the cañon, came the sound of a horse's hoofs, beating in a steady, rapid rhythm. Louder it grew, and louder.

CHAPTER XII.

A Sinister Roll-Call.

HER face pressed close against her father's coat, Thekla Wist dared not change her position until she heard Jack Marly's footsteps die away; heard him, a moment later, mount his horse and start back down the road to the Bend-water.

Had she looked again into his eyes, she could not have abided by her decision to let him go alone. In turning from him, she felt that she was facing away from the attainment of every true longing of her heart. Every true longing, that is, which affected her own happiness; for it would be unjust to suggest that she did not wish to insure her father's happiness even more. Yet she had turned from Jack, because her father's call to her had seemed to demand the full sacrifice.

Then, too, there was a dread of her own outrush of passion. It was so strange to her, so new and unsuspected, that, after her first acceptance of it, she feared it—feared even the happiness it promised.

As with Jack, the knowledge of her love had come, not by a slow unfoldment, but with a sudden, blinding rush of light. It seemed to expose her soul to a glare which it could not support; and she shrank from it. So, when Jack went, an odd feeling of relief was mingled with her anguish.

Her father was slowly detaching her fingers from his sleeve. He was pressing her head away from his coat. Now he placed a hand under her chin and forced her head back until he could look squarely into her eyes.

Long he gazed. He must have probed the startled, frightened, shrinking truth. He must have seen the difficult loyalty to himself. For at last he released her gently, and returned to his work without a single word.

She had expected some sign from him, and his silence hurt her. She went slowly back to the house and to her own room, and she looked far down the road and saw the dust-cloud that was rising behind the disappearing horseman. He was taking her heart with him. Soon he disappeared.

The following day, fortunately for her, three cases of slight illness in the valley took much of her attention, and until late in the afternoon she went busily from house to house, caring for the ailing women with a sympathetic tenderness that mingled, to an unusual degree, emotion with science and skill. Not for an instant, however, was Jack Marly out of her thoughts.

His big, boyish manliness, his gentle comprehension, his strong, straight honesty—her mind dwelt on these things, and always there was an ache in her heart. She would not see him again; or, since she could not say "never," at least not for a long time.

The dam would be completed and he would go back to the East, and the dreary routine of her own life would go on and on indefinitely within its narrow groove. She pressed her red lips close together, and tried to hide the suffering that sought to show itself in her eyes.

Peter Wist went about his work that Saturday in a manner of abstraction which the girl naturally associated with her own case. Had she thought, she might have known that his recognition of her state of mind did not account for his frequent conferences with neighboring farmers, who, one by one, made their way to the field in which he was working. Nor could it account for his obvious communication to John Peterman of some errand which sent the man, mounted on his gaunt mare, post-haste to Willow Cañon and down the long road to Larkin City.

Indeed, the valley hummed with the

busy undertones of rumor. The morose, silent men were nodding to themselves, some of them muttering aloud as they trod their fields. Their somber eyes were lighted by dull flames. Their bony hands were shut into hard fists.

For this was their valley; this was their home. Nature had made it a waste place, but they had caused it to be a garden spot. By the sweat of their strength they had forced it to serve them, and they would not stand idle while strangers robbed them of it. They would fight, if need be.

At the evening meal, Peter Wist hardly spoke. His preoccupation went virtually unnoticed, however, for Thekla herself was looking inward, and her aunt was condemned to silence by her deafness. An hour later, after Thekla had gone to her own room, she was startled from a reverie by the sounds of wheels.

She went to her window. The dusk was just coming on, and from under the wall of mountains at the western side of the valley the shadows were creeping across the fields. Drawing up in the dooryard was Ole Knudsen's wagon.

It was crowded with men of the valley, and behind it was Fred Seip's haycart with still more men—thirty-five sturdy Norwegians in all. Every able-bodied male dweller in the valley was there at the door of their recognized leader. They swung to the ground and formed in a semicircle, ready for the conclave which in serious crises it was their rule to hold. Powerful men they were, and under their stolidity was a gleam of something like madness.

Instinctively, Thekla had drawn back behind the shelter of the muslin curtain at the window. She knew what this gathering must mean. The significant goings and comings during the day, the nods and shakes of the head, the whisper of rumor—she had not given these things a thought; but now, in a flash, she lost her self-absorption, and her heart leaped with the dread of impending danger—danger to her father and to the man she loved.

Peter Wist had opened his door. He was standing on the step. Thekla could look down at the tousled gray of his hair, a few feet below her. Now he was speaking.

"Men of the valley," he began—and his voice stirred them with the Norse words that they loved—"men of the valley, yesterday the word came that the dam on the Bendwater is almost done. To-day, John Peterman rode to Larkin City for news of the scheme by which our fields are to be flooded and we to be driven from our homes.

"He was told by persons who know that within a month the water will encroach on us. He was told by men of our own race that the company which has made the dam has no intention of rebuilding for us the road through the Bendwater Cañon, but we are to be forced to continue to use the long, rough road through Willow Cañon. These are the things which we have heard before. Now they come to us with full assurance that they are true."

He paused, and the men shifted restlessly from foot to foot.

"For several weeks," he continued, "a man of the company has been spying out our valley. He has been riding around its edge. He has"—the speaker's voice trembled—"he has been winning the faith of my daughter, Thekla.

"Yesterday I talked with that man. He denied that his company would flood our valley. He offered to show us maps and plans which, he said, would prove that they would do nothing to harm us. But our own friends in Larkin City tell us that all the time the company has planned to befool us with maps and plans.

"We cannot understand their papers. What would they mean to us? How could we put trust in them? They would say that the dam is to be built only so high—and that its top will be lower than the elevation of this valley.

"But what is to prevent them from building the dam higher when they choose? And that is what they plan to do. They would lull us in false security, and then some morning we should awaken to see the water in our fields."

The tense, earnest faces of the listening men, and her father's clear, relentless words, filled Thekla with terror. Plainly enough, she foresaw what was to follow; and she hardly needed to listen as her father's voice went on:

"Men of the valley, this is our home.

With hard-earned money we bought our farms when they were nothing but patches of sage-brush. With harder work we have made them prosperous. Shall we be robbed of them in order that men who are already rich may become richer?"

"No! No!" they shouted.

"Shall we permit them to take our land away and leave us only the slow process of law to get it back?"

"No! No!"

"They would beat us in the courts. They could afford to pay skilful lawyers to weave cobwebs over the eyes of the judges. We could not. In the meantime we should be homeless. What if, after years of law wrangling, we won a decision?"

"What if they were made to let the water run off and to pay us damages? Would our farms be again what they were? Would the money pay for our sorrow?"

"To the dam!" shouted Ole Knudsen.

Peter Wist's hand went up to enforce silence.

"Wait!" he said. "We have all thought about this matter. It is needless to go over the old ground. What shall we do about it?"

"To the dam! To the dam!" A dozen voices took up the cry.

"We cannot destroy the dam, but we can destroy the sluices. A little dynamite will do it. If they rebuild the sluices, we will destroy them again. Now, men, listen!

"Our friends at Larkin City have sent word to us that this afternoon the workmen at the dam would go on strike. There will be no one there to-night to stop us. Men of the valley, shall we go now to the dam?"

"Yes! Yes!" they cried.

"What do you say, Ole Knudsen?"

"Yes!"

"And you, John Ihlen?"

"Yes!"

"And you, Adolf Castberg?"

"Yes!"

"Edwin Paasche?"

"Yes!"

Thus the roll was called, and, man by man, they answered.

"Men of the valley!" Thekla had thrust the curtains aside, and stood in the waning light at her window. They stared up at her in surprise, and her father got down from the door-step that he might face her. She was aroused—brave and strong. Her lips were a firm line. Her eyes shone.

"Men of the valley! To satisfy one moment of madness, are you willing to wreck all your future happiness? Do you not see that, if you blow up the sluices, you will be punished, even beyond your deserts, by forces that you cannot resist?

"You have ruled this valley like a tiny kingdom." She was talking at her father now. "Why have you been permitted to do that? Because the men who rule the State have seen that you kept order here.

"Do you not know that, if you had not kept good order, if you had not paid your taxes, if you had destroyed the property of your neighbors, the soldiers would long ago have been sent to put you down? And if you do this mad thing to-night—"

"Thekla, be silent!" Peter Wist's command came sharply.

"How can I be silent?"

"Your head has been turned by that young man. You are a woman; you do not understand these matters. Men of the valley, give no ear to my daughter. John Peterman, you have the dynamite?"

"In the wagon," answered Peterman.

"Then, light the lanterns." He glanced up at the window again. Thekla had disappeared.

CHAPTER XIII.

Thekla's Ride.

HER father's first words to her had shown that she could not move him. The poison of the false story had been too deeply instilled into the brains of the men of the valley to be eradicated by anything that she could say. These men were set in their purpose. She could not hold them back.

But the horror of what they had planned to do made her frantic in her helplessness. Her father was setting out to ruin himself and to ruin the man she loved. There might be clemency for these misled men of the valley.

It might be shown that they had been goaded to their action by persistent lies. But from what Jack had told her about his own situation she knew that he could expect no clemency from the holder of the mortgage, if the work were not completed by the thirtieth. The blowing up of the sluices would set the work back many weeks.

They were lighting the lanterns now. In a moment the wagons would go lumbering down the road. She had stepped back from the window and thrown herself face downward on her bed.

"Oh," she moaned, "one woman against all those men! What can I do? What—can—I—do?"

The hoarse voices without were quieting down. She could hear the creaking of the springs as the men climbed into the wagon. The hay-cart was first to rattle away, and the wagon followed at once.

The thought of being alone for hours while the men were at their desperate work was insupportable to the girl. She must do something. She had failed to keep them back; they were rumbling slowly toward the head of the cañon.

But if she had failed to keep them back, should she not at least carry a warning to Jack? It was not too late.

She did not stop to reason, for if the thing was to be done, it must be done at once. Hurrying down the stairs, she ran around the house and across the yard to the stable.

It was dark now. Heavy clouds were covering the sky, but she knew where Freia's stall was—Freia, her father's driving-mare, a nervous, eager animal.

There was no time to put on her habit; no time even to light a lantern. If the wagons got to the head of the cañon first, she could not pass them.

Feeling her way to the hooks where the harness hung, she lifted down a bridle and carried it to the barn door. Faint rays from the lamp in the kitchen gave her enough light to make the bridle usable.

By that lamp in the kitchen, Aunt Marta would be in her armchair, with her knitting in her lap. Her deaf old ears would keep her peaceably oblivious to the drama without.

Thekla made her way to Freia's stall.

"So, Freia," she whispered. So—so!"

She patted the mare's glossy flank and slid in beside her, and took off her headstall and put the bridle on.

"So, Freia! So! Come, Freia! Gently, gently, Freia!" She backed the mare out of the stall and led her to the yard.

"Steady, Freia! Steady, girl!" The mare was nervous. The lowering, sultry night seemed to make her apprehensive. When Thekla led her to the barrel from which she wished to mount, the animal would not be still. Patience—patience. *Now,* Thekla, while the mare is fidgeting.

The girl threw herself upon the mare's back. Her skirts hampered her, but she arranged them as she could, while Freia minced about the yard.

There! She could do no better. Her knee's pressed Freia's sides at last, and with a fleeting glimpse through the lighted kitchen window—a glimpse that showed Aunt Marta, busy with yarn and knitting-needles—she sent the mare forward at a trot, past the house and out to the road.

There, for a moment, she hesitated. To ride without saddle, eight miles over a rough road, in the midst of blackness like the blackness of ink! No, she could not risk it without a light. Back to the barn she rode, and in, without dismounting. She took down a lantern, and from its place, on a beam, the box of safety-matches. When she had passed the wagons she would light the lantern.

Back to the road Freia trotted. The mare did not understand these nervous hurryings to and fro. She was not comfortable with human weight on her back, and she whinnied her disapproval.

But Thekla was looking westward. The wagons had not gone far. If she hurried she might yet pass them before they got to the head of the cañon.

"Oh, Freia!" She brought her hand down on the mare's shoulder. Forward they plunged toward the dancing lights on the wagons. It seemed as though the men must hear the thunder of Freia's hoofs, which pushed the road behind her so swiftly.

The lights were nearer. Thekla could make out indistinctly the outlines of the men huddled together on the hay-cart. Fortunate that she had realized the danger of lighting her own lantern!

Now, the hay-cart was not more than a hundred yards ahead. She could approach no nearer by the road. Speaking to the mare, she turned, still galloping, into the field at the right.

Now the cart and the wagon were at her left, a hundred feet distant in the road. Even if they heard her the men could not see her in that blackness. Their horses were walking.

Now she had passed them. Gradually she swung in toward the road again; not at too sharp an angle, lest the men detect her.

Ah! Freia stumbled! She pulled her to her feet, and the mare plunged on, until the alfalfa no longer brushed about them as they flew. Only then did Thekla know that she was in the road again, for the lanterns which had given her a glimmer of the way when she first set out from the house were now behind her.

A second later Freia's hoofs pounded on the plank bridge which crossed the stream by which Jack had found her that first day. She had not got out of the field too quickly. Fifty feet more before turning and Freia would have gone down among the boulders!

While one might count two hundred she now let Freia gallop forward, unguided, into the darkness, trusting the mare's keen sense to find the way. She could not go on without light into the narrow windings of the cañon. When she felt that she had gone a safe distance, therefore, she pulled up. Freia raised her head and snuffed at the sultry air.

Three matches Thekla had to strike before she got the lantern lighted, but at last it shone out, and its rays, feebly though they battled against the night, were like a friendly, hopeful word to her. Before going forward again she heard the horses behind her break into a trot.

Perhaps the driver had seen her light, though she had concealed it all she could by keeping it in front of her. Perhaps they were merely getting eager to reach the dam, and were taking advantage of the gentle downward slope.

"On, Freia!" The mare bounded toward the fading edge of the rim of lantern-light ahead. Thekla was bending to the animal's shoulder, holding the lantern in her elbow, at the right side.

"On, Freia! She would reach the dam in time to prepare Jack for what was coming. The wagons must be far behind.

Thekla suddenly remembered that, before reaching the dam, it would be necessary to leave the old road for the bridle-path that led up to one side of the masonry and above it. How was she to know she reached the bridle-path? How was the mare to know?

"On, Freia!" A new thought surged through Thekla's brain. She was going to Jack! To Jack, whom she had never hoped to see again!

What now of her decision to abide by her father? She was leaving him for her lover, and she could not go back. Yet it was not too late. Even at this instant she might rein in, put out her lantern, find a place where she could, unseen, let the wagons pass, and return to the valley.

Leave Jack unwarned? Let her father and the men of the valley do that which they had set out to do, without one final effort to prevent them? No, she could not turn back. Fate was forcing her to choose her lover after all, and she was glad. Her heart had come back to her, and she was glad!

On and on rushed Freia. Blacker and blacker the night hemmed them in. Thekla suddenly caught herself swaying in her seat. Her strength was giving out, but she shut her teeth together, and kept her eyes on the retreating patch of lantern-lit road before them.

The mare stiffened her legs, and came sliding to a halt. Thekla, plunging forward, dropped the lantern and clutched the animal's mane with both hands. Barely she escaped a throw.

Freia stood, trembling. In the road the lantern still burned, and it illuminated grayly a barricade of timbers across the road before them. At the right a path led up the slope.

This, then, was the beginning of the bridle-path. The old road had been blocked, and the dam could lie but a short distance ahead.

But who was this plunging down the bridle-path, with long, eager strides?

"Jack!" cried Thekla.

Then she slid from the horse, into her lover's arms.

(To be continued.)

THE PAYMASTER.

BY FREDERICK SANDERS.

Written for "The Railroad Man's Magazine."

HE'S a fellow who is never really friendly—
In fact, I never saw him crack a smile;
Never asks you if you're smokin', never does a bit of jokin'
When you pass his private car in single file.
Still we're always mighty glad to know he's comin',
The world seems brighter when he is aroun';
Though there's none of us that know him; sure, each face in line must show him
That he's got a standin' welcome to the town.

He's far from bein' what you'd call a "mixer,"
You never get a chance to learn his name;
Gee! his conversation's snappy—still he always makes us happy—
The way we crowd around him is a shame.
He's an interestin' fellow—for the minute—
We'd hate to hear that he was in a wreck,
For it certainly would grieve us if by accident he'd leave us;
That is, before he handed us our check.

The missus, too, although she never saw him,
Is extra friendly toward him, so to speak;
Just before he comes she's cheery, and it's then I'm "pet" and "dearie,"
I wish his monthly trips came every week.
She's marked the calendar to show his visits,
She knows just when he's comin' to a day;
He's the one that brings us all joy, from the old man to the call-boy.
We never kick to give him right o' way.

The president can come and go unnoticed—
He's the mogul of the road, we all know that—
But for a genuine reception the paymaster's an exception,
To him we're ready to take off our hat.
He's the one that really makes life worth the livin',
He's the one that helps to make life's track look clear;
Glad to take his hand a minute, when he's got the pay-check in it—
He's the one that brings the money and the cheer.

Riding the Rail from Coast to Coast.

BY GILSON WILLETS,

Special Traveling Correspondent of "The Railroad Man's Magazine."

"DOWN in southern Arizona, where the Gila monster thrives!" That's where Mr. Willets takes us this month. Through the land of the mescalero and the squaw, the desperado and the painted buck.

These stories have the ring of the desert. They are full of the odor of that frontier country now fast fading before the great march of progress. Indeed, there are only a few people left to tell such stories as Mr. Willets relates here.

No. 11.—OUT IN THE "GREAT HOT."

Espee Men, Who Travel Along the Burning Deserts of Arizona and the Mexican Line, Tell of Thrilling Encounters of Bad Men with Outlaws.

ABOARD the Golden State Limited. Running on the Southern Pacific tracks in southern California, dropping down to the far-famed Salton Sea.

It was a January afternoon. The suit of clothes I wore was such as you would wear in New York in spring. When I boarded the train at Los Angeles that morning I was comfortable in that suit. But now, as we passed a station called Dry Camp, I changed that suit for one such as you would wear in New York on the hottest day in summer.

As we skirted that wondrous sea, created in the middle of the desert by the Colorado River flood — which will not evaporate in less than twenty-five years, even in that zone of heat — I took off high shoes and put on low ones. At Tortuga I swapped a high collar for the lowest. As we approached Yuma and the Arizona line, I shed my waistcoat. While we stood still, within a half-hour of Yuma—held up for some excellent railroad reason of safety—I went into the buffet and shed my coat and rolled up my shirt-sleeves.

The mercury in the car showed one

"WELL, I'M GLAD TO GET HOME AGAIN."

hundred degrees. We were in what the railroad men call the "Hot Country."

"Is Yuma worse than *this?*" I asked Conductor Marvin, who was counting up his tickets.

"Is it? Why this is refrigerated air compared to anything else." Just then Marvin looked up and beheld a *frown* on a man who sat near us. That man was a traveling passenger-agent of the Espee.

"What I mean to say is this," added Marvin. "I mean that, compared to this refrigerated air, Yuma is absolutely arctic."

Is Yuma Hot?—Well—!

"Yuma hot?" put in the rear brakeman, who came in with his lantern, for it was about ten at night. "No, indeed; the winter climate of Yuma is simply fine. And a Yuma night—why, a Yuma night is—well, it's a heap cooler there than it is in Needles or Phœnix—yes, sir."

Here I caught a sly wink in the eye of the Pullman conductor, who was helping the train conductor with his tickets.

"Yes, we just love to lay over in Yuma, we railroad men do," said Marvin, with an ill-suppressed chuckle. "You know that hoary old *blanket* story of Yuma, don't you? There was a chap with a pen-name of John Phœnix and a real name of Derby. He was a lieutenant in the army, and once was stationed at Yuma.

He said a soldier died at the garrison in Yuma, and that his ghost came back for his army blankets. Well, I'm just reminding you of that story in order to tell you the latest news. It's a lie. That soldier's ghost didn't come back after his blankets; no, sir, he didn't."

And Marvin chuckled again, and fairly shook with smiles.

"The lack of sincerity noticeable in your speech, Marvin," here spoke up the traveling passenger-agent, "will get you disliked.

"Yuma, sir," he went on, addressing me, "is a God-given climate for the bringing of crops to a head and for developing that peculiarly fine flavor that characterizes the lemons and other fruit grown in that neighborhood."

"That's right," said Marvin, closing his ticket-box with a slam as the train moved on. "The climatic joke about Yuma is as dead as a door-nail all along the Pacific division of the Espee."

That I was much mystified by all this talk goes without saying. But before I had been in Yuma half an hour that night I was "on."

Weary of the Title.

The first thing I did was to get a room in the hotel, which is on top of the railroad station, or should I say that the

hotel comprises the second story of the station? The second thing I did was to look at the thermometer. It showed ninety-eight degrees. The third thing I did was to rustle around the station below till I unearthed the cause of that phony talk of the railroad men on the train. And here's the great secret:

Yuma, through its board of trade, made known to the Southern Pacific that it was tired of being called the "hottest town in the country." The Yumans were weary of the notoriety gained through stories of excessive heat. And the Espee was asked to help Yuma get rid of its unjust and unwarranted reputation for high mercurial figures.

Thereupon Traffic Manager Fee, of the Espee, jumped in to the aid of the Yumans in their struggle for a reputation for cold, and issued a general letter to all employees of the line, asking them to cut out levity as applied to the climate in and about Yuma. I quote part of Mr. Fee's letter, and the quotation will help you, as it helped me, to understand the remarks of the railroad men on board the Golden State Limited. The famous letter reads:

> Joking remarks concerning Yuma, are not only annoying to the people trying to develop this land of great possibility but a positive and serious detraction, no matter how good-naturedly or thoughtlessly made. Your cooperation is earnestly solicited in

"I BELIEVE I AM ADDRESSING BURT ALVORD, HEAD OF THE GANG OF TRAIN-ROBBERS."

creating for Yuma, and the section thereabout, the reputation it is entitled to, as a region unexcelled in agricultural and horticultural advantages, and possessed of many attractions, and to do away with any needless and unjust references to ancient climatic jokes which might well have been forgotten years ago.

A Climatic Joke.

And I want to add to this the statement, founded upon my own experience, that the climatic joke as applied to Yuma is a libel. I was as comfortable in Yuma as I had been in Los Angeles, and as I afterward was in Tucson, Benson, and Deming, farther east on the line. Tourists who fail to stop over at Yuma miss a lot.

At sunrise in the morning I had already finished breakfast. Now, I put my feet up on the rail of the hotel's Italian "gallery," watched the sluggish Colorado River flowing below me, watched the Yuma Indians coming and going on the iron bridge that spans the river, smoked, and listened to the stories of Jared Hilpin, who was one of those railroad men who had to lay over frequently at Yuma and "loved it."

"See they got that greaser that escaped from the Territorial penitentiary here a bit back," said Jared Hilpin. "He vamosed in the night, and they tracked him up the Gila River. They lost his track, however, and returned, saying: 'Oh, never mind! Either the heat will drive him back, or else we'll find his bones bleaching somewhere in the Hot Country — in due time — just like we found the bones of that half-breed who escaped some years ago and starved to death in this same Hot Country.'

Glad to Get Home.

"Well, some days later they unearthed that greaser I was speaking of down here in a stable not a stone's throw from the prison. He had doubled back on his own trail, thinking he was making a getaway. Being nearly dead with the heat and lack of water and food, he didn't know where he was going. And when they landed him back in prison he said: 'Well, I'm glad to get home again.' He meant, you see, that prison walls were far better than being a fugitive in the Hot Country."

Jared Hilpin looked at the narrow, sunken Colorado River, and continued:

"That Yuma is the capital of the Hot Country, the Yumans frankly admit. What they kick at is folks hinting that the town is unbearable. We're comf'y, ain't we? Well, so's any one else who comes here and behaves himself. It is hot in the country roundabout here, of course—a simply fierce heat, to be sure—but right here in Yuma it's tolerable, as you'll testify.

"But when folks come here and insist upon going for automobile-rides out into the Great Hot at one o'clock in the day, they must expect to be brought back dead, like Spaulding was.

"Spaulding came here from San Francisco with a man named McCauley. It was last August, right when we're at the hottest. Spaulding had a mine out at Gila Bend that he wanted to show to McCauley. We warned them not to start out at one o'clock, but to wait till night. But they thought we didn't have sense. So away they went in the hottest time of the day and in the hottest month.

Get a Man Quickly.

"Now, let me show you how quick these burning sands get a man not used to them. To live in this heat you must drink gallons of water. We railroad men know all this, and that's why track-walkers in this Hot Country drink more water than camels. But Spaulding and McCauley wouldn't listen to us. They didn't take water enough. I said I would show you how quick these burning sands get a man not used to them. The two men I've mentioned started from here, as I said, at one o'clock. At six o'clock that same night our folks at Blaisdell Station saw a son of a Mexican drive up in a buggy with one dead man and another man almost dead.

"The Mexican boy said he had found the two men lying face down on the sands, alongside their motor-car, with the fierce sun beating upon them. The dead man was Spaulding. The Hot Country had finished him in less than five hours. McCauley, too, was in serious condition.

"Moral: When you come to Yuma, *stay* in Yuma, except at night."

"You spoke of a half-breed escaping from the penitentiary here, Mr. Hilpin," I said. "What's the story?"

Can't Live, Anyhow.

"Oh, his story doesn't amount to much, except to show that no prisoner ever got out of this prison here and lived to tell the tale. The Hot Country will get 'em every time. His death occurred in the desert about four years previous to that time when the railroad boys here, all armed, made a rush on the prison to save the life of the superintendent, Tom Gates, and his guards.

"That was the time when there took place right here in Yuma the most daring and most deadly attempt at wholesale delivery ever made in any penal institution in America.

"It was a morning in October, 1887. I was a kid brakeman, working through here at that time, in freight. We pulled in here that morning and found the town in an uproar, with folks calling on us to get a gun quick and make a rush to the prison. At the same time a fusillade of shots smote my ears, and then came the sharp *crackety-crack-crack* of a Gatling.

"'What's going on here?' I asked. 'A battle with Indians or a celebration?'

"'Trouble at the prison,' was the reply. 'The whole kit and caboodle of them is probably trying to vamose.'

"With that I ran back to the caboose, seized my gun, and joined the rest of the fellows who were scrambling for the prison. When we got there, ready to shoot the first man in convict garb we clapped eyes on, all was silence. We found half

"THE YUMAS MANAGE SOMETIMES TO GET WHISKY, AND WE KNOW THE FIRE-WATER COMES MOSTLY FROM TRAMPS."

a dozen guards lying dead, and about a dozen wounded.

"Outside of the prison lay the dead bodies of nine convicts. Inside were more dead convicts and a lot of wounded ones.

"And there was Tom Gates, wounded so that he became a permanent physical wreck. He killed himself ten years ago, after years of suffering.

"Poor old Tom Gates! He came out of his private quarters in the prison that morning, to be set upon by four prisoners. The tussle took place within sight of the armed guards on the prison walls.

"'Shoot!' yelled Gates.

"'We daren't, for fear of hitting you,' called the guards.

"'Never mind me. Shoot, I say!' shouted Gates. And the guards let fly. At the sound of those first shots, the whole prison broke into Bedlam. Twenty convicts slipped from the shops and fell upon the guards and knocked them insensible. Twenty others broke out of the kitchen and laundry, and ran into the prison office and snatched rifles and revolvers kept there for emergency.

"Then the slaughter began in earnest. Guards and prisoners shot each other standing so close together that their bodies fell upon one another. In the midst of the fray, twelve convicts got over the walls and started on the run for Yuma.

Let the Gatling Loose.

"It was just then that I arrived in town on the freight, for then it was that the Gatling let loose. You see, they had not been able to train the Gatling on the men in the prison yards, because they couldn't get the proper angle to work the gun. But, now, you bet the man behind that Gatling opened up with the most terrible fusillade ever heard of in these parts.

"In as many seconds, he had laid nine of the fleeing convicts in the dust, all dead as a riddling of bullets could make them. The other three, scared by the appalling mortality list among their fellows, threw up their hands and marched back meekly to the prison yard.

"Inside the prison, meanwhile, the convicts had used up all the cartridges in their stolen weapons; and now they, too, threw up their hands. It was a bloody battle, all right, even if we railroaders did not, after all our rush, get a chance to fire a shot."

So much for the morning "sitting" with Jared Hilpin. He now induced me to "move on"—"to show me round town." When noon came, and Jared pulled out on a freight, I found he had left me with enough stories of the Hot Country to keep me busy with my notebook all through the *siesta*.

While everybody else in town was dozing through the heat of the day (the mercury now showed something over—well, never mind!) I jotted down the skeleton of this story:

Burt Alvord's Hold-Up

One Burt Alvord and his pals held up a Southern Pacific train in the Hot Country, down Bowie way, in the spring of 1899. Alvord and his fellow train-robbers were captured and lodged in jail in Tombstone. Alvord escaped, and for three years lived as a fugitive in the desert just over the Mexican line. And then Burt Mossman was appointed captain—the first captain—of the Arizona Rangers.

Now, Burt Mossman's first work was to get a notorious bandit named Chacon, wanted in Arizona for the unprovoked murder of four or five peaceful denizens of the Hot Country.

Mossman heard that Chacon was hiding somewhere over the Mexican border in company with the train-robber, Burt Alvord. And Mossman determined to go alone to the camp of those men and get Alvord to act as stool-pigeon in the capture of Chacon.

Alvord, the train-robber, was a desperado, of course, and was wanted. But Chacon was—worse, and was wanted a good deal more than Alvord. Mossman, feeling that he could not take both men, determined to try his hand, alone and unaided, in taking Chacon.

Accordingly, he rode over into Mexico and hunted through the desert for days in search of Alvord's camp. At last he spied an old dobe hut near an arroyo. Contriving to hide himself from view, Mossman watched the hut for hours, and, as a result, decided that the number of inhabitants of that hut was just one.

Riding leisurely, he came to the hut, was confronted by the one inhabitant whom he had been observing, and said to him:

"I believe I am addressing Burt Alvord, head of the gang of train-robbers who held up the Southern Pacific near Bowie three years ago, and who later escaped jail at Tombstone."

Stole to His Gun.

Any man except one with Mossman's audacity might have been shot to death on the spot. The hand of the man addressed stole toward his gun. But Mossman continued:

"I'm unarmed, friend. I am here on a friendly errand. My name is Mossman. I'm the captain of the Arizona Rangers."

Another stealthy move toward the gun on the part of the lone inhabitant of the hut, and then Mossman said:

"Cut that out, Alvord. I told you I'm here on a *friendly* errand. I'm starved and thirsty, and I guess I'm a bit weakened by heat. A little grub and water would greatly facilitate these proceedings." And with that Mossman dismounted and walked up to Alvord, saying, "Where's Chacon?"

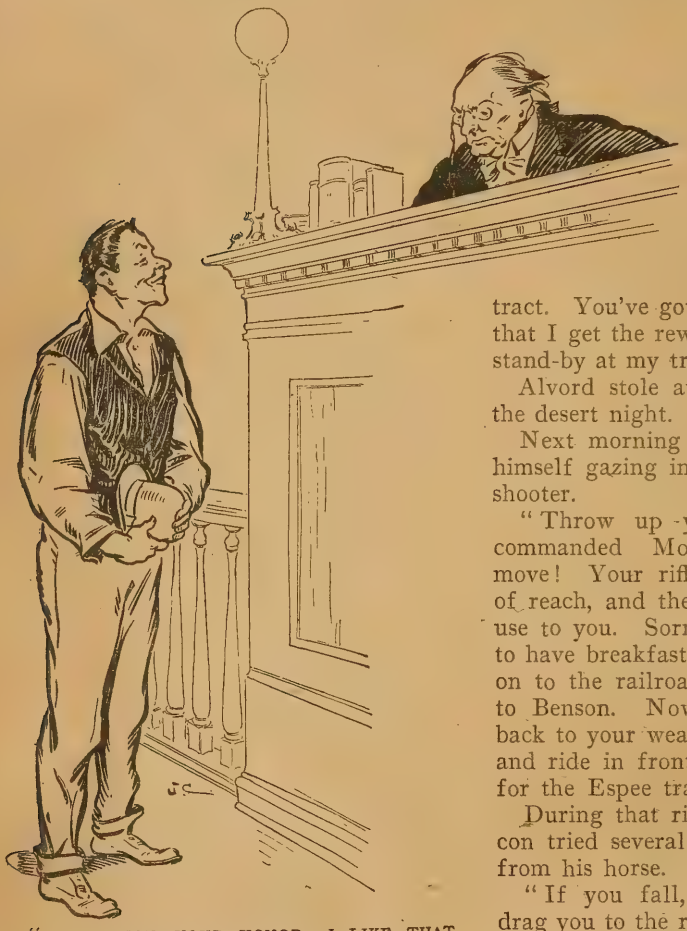
"CHIEF JOSÉ, YOU ARE A LIAR, FOR YOU ARE NOT KEEPING YOUR WORD."

"Reckon I see your game, Mossman. I'm the stool-pigeon, am I?"

"You certainly are. There's a big re-

ward out for Chacon, dead or alive, as you know. Deliver him to me, and you get the reward. Then surrender yourself, and I'll stand by you at your trial."

"I ain't hankerin' after surrender," observed Alvord, as he set about supplying Mossman with food and drink, "but I reckon that reward is worth riskin' a



"THANK YOU, YOUR HONOR. I LIKE THAT PRISON BETTER'N ANY I'VE PATRONIZED."

gentleman's say-so when he says he'll stand by me at trial. Maybe I recognize the sound of a gentleman's voice when I hear it."

Delivering Chacon.

The upshot of the matter was that when Mossman rode away from the dobe that night, arrangements had been made to meet Alvord at a certain water-hole in the Hot Country on the United States side of the line, some twenty-five miles from Benson, on the Southern Pacific. At that water-hole Alvord promised to deliver Chacon.

Mossman, as agreed, joined Alvord and Chacon at their camp, Alvord introducing Mossman as a fellow bandit and fugitive who wished to join with them in a train hold-up which Chacon himself had planned — this accounting for his presence within Arizona.

During the first night in camp Alvord awoke Mossman and whispered: "I've kept my part of the contract. You've got Chacon. Don't forget that I get the reward, together with your stand-by at my trial—if I surrender."

Alvord stole away into the silence of the desert night.

Next morning Chacon awoke to find himself gazing into the muzzle of a six-shooter.

"Throw up your hands, Chacon!" commanded Mossman. "And don't move! Your rifle and revolver are out of reach, and they won't be any further use to you. Sorry I can't tarry for you to have breakfast, but we've got to move on to the railroad to catch that limited to Benson. Now, stand up, keep your back to your weapons, mount your horse, and ride in front of me in a direct line for the Espee tracks."

During that ride to the railroad Chacon tried several times to throw himself from his horse.

"If you fall," said Mossman, "I'll drag you to the railroad by your neck."

At one of the desert water-tank stations, where the two at last arrived, Mossman flagged the limited, put Chacon aboard, rode with his prisoner to Benson—and later watched Chacon hang by the neck until dead.

"Train-robbers," observed Jared Hilpin at the conclusion of his story, "have thus their uses in this Hot Country. The way Mossman used that train-robber to capture a worse outlaw caused the captain of the Rangers to be highly respected by all the outlaws along the Espee in

Arizona, right up to the time when he was succeeded as head of the Rangers by Tom Rynning, who was lieutenant of Troop B of Roosevelt's Rough Riders."

On the station grounds at Yuma, when a train pulls in from east or west, sit half a dozen Yuma squaws, gaudily blanketed, with wares to sell.

Like Our Coin.

"The squaws are all right as far as they go," said a station man, "because, through trading with white people, they have learned to like us for our coin. But, while the squaws sit there selling their woven basket wares to travelers, the bucks sit on yonder fence and leer at the whites with truly racial hatred.

"Look at those bucks there now. Why, when a train comes in and a white man speaks to them, they will treat the stranger with downright discourtesy.

"Yes, the bucks hate us, and they hate especially the men connected with the railroad, because they hold us responsible for the bringing in of strangers. One time one of the bucks got into an altercation with a track-walker here, all because the track-walker wouldn't give the buck a swig of whisky. Giving whisky to redskins is forbidden here, as everywhere else in the country, and the rule makes us lots of trouble. The Yumas manage sometimes to get whisky, and we know the fire-water comes mostly from tramps who pass through here by the hundred.

"Well, in the altercation the buck stabbed the track-walker — and immediately a lot of folks here, including men with authority, got after that buck. They caught up with him; and when he showed fight, they shot him dead—'killed while resisting the law.'

"Gee! There was *more* trouble. When we held the body for the necessary inquest the Injuns thought they were to be denied the right to receive the buck's body and to bury him according to their own peculiar tribal rites. So they prepared for war. About a hundred of them turned out ready to wipe the white man off the earth and to send all railroad men hereabouts to a kind of unhappy hunting-ground.

"But just as they were about to march over from their reservation over there, across the river on the California side, one of their squaws — a young girl — rushed up to them and addressed them. The result was the Yumas laid down their arms, as it were, and let us whites live a while longer.

"Now, that squaw who addressed them was one who had been educated in the Indian school over there — that nice, cool-looking, brown-painted building across the river. One of us went to her and asked what she had said to her kinsmen.

"'Common sense,' she replied. 'I told them you white men would send them the way of our Amigo Powder-Face, whom you killed for resisting your law. And I promised that you would give them the body of our Amigo when you were through with your legal proceedings. Will you? Because if you won't, I'm to be killed and buried myself in Amigo's place. Yes, I promised them my own life if I failed to secure the body of Amigo for them.'

Fearless Miss Egan.

"'The Indians that live nearest to Hades.' That's the way I heard the Yuma Indians designated—not in Yuma, be it said—because, I suppose, they live in the hottest area in the United States. But there's one woman, at least, in that Hot Country who would not so designate the tribe. She is Miss Emma Egan, head of the Indian school to which the station man had referred.

"She's the bravest woman in the whole Hot Country, I was told, and, in corroboration of that statement, listen to the incident that made Miss Egan famous.

"It was last April," said the station man. "The Yumas were holding what will doubtless be the last mourning feast that we'll ever see here. Our road had brought a lot of tourists and sightseers and professors and ethnologists and Smithsonian boys and photographers and all like that into Yuma from east and west to witness the mourning feast. Heaven, how the Indians hated to see the strangers pouring in!

"The mourning feast included a sham battle, and fully fifteen hundred Indians had gathered for the make-believe fray.

They were headed by Chief José, one of the worst haters of the whites.

"Just before the battle was to take place, Chief José comes down to the Indian school and asks for Miss Egan, the superintendent. She weighs about a hundred pounds! But then weight hasn't anything to do with bravery. For here's what happened:

"Chief José takes one look at the diminutive boss of the school, and then grunts contemptuously and says:

"'Him white man must all go away. Him white man not welcome.' And more talk to this effect, during which time scores of bucks joined their chief, all grunting and backing him up with 'Yi! Yi!' in everything José said. From all of which Miss Egan finally gathered that the Indians actually wanted every white person to withdraw from the reservation during the battle and the feast.

"Was Miss Egan frightened? I guess not! Miss Egan can have anything we railroaders have got, and all we've got any time, including our last drop of blood in fighting for her, if ever she needs our backing. When Chief José got all through with his demands for the withdrawal of the white people, Miss Egan folded her arms and said:

"'Chief José, you're a coward for speaking to a woman as you have spoken to me. There's a number of United States government men on this reservation. Why didn't you go to *them* with your demands? You didn't *dare*. So you came to me, a woman. Also, Chief José, you are a liar, for you are not keeping your word. You promised to give this sham battle for the whites to witness.

Was She Frightened—Nix!

"'These white people have spent lots of money to get here, paying their money solely on your word to give this exhibition by the members of your tribe. Now, then, you just get back in the field and shoot off your guns, and go right on with this battle for which the whites have paid. Scat! Away with you!'

"And Chief José and his scores of braves slunk away from that little schoolma'am like so many whipped curs.

"Yes, we railroad men regard Miss Egan as one of us; and, if ever the Indians give her trouble, she'll find the boys of the Espee hereabouts fighting for her to the last."

After the *siesta,* that afternoon at Yuma, I meandered through the railroad yards in quest of anything in the story line the gods might grant.

"'He's back—Will Douglas is back!" I heard one of the men say to a comrade.

"What's he been doing now?" asked the comrade.

"Robbing the Espee depot at Tucson," was the answer.

At this point I joined the freight trainmen, for such they were, and asked:

Best Jail on Earth.

"Who's this Will Douglas?"

"Oh, he's a boarder at the Territorial pen here. He has boarded here before. He likes the life. He's spent twenty-three out of the last twenty-five years in one prison or another. He was here two years, and the boys here know him well.

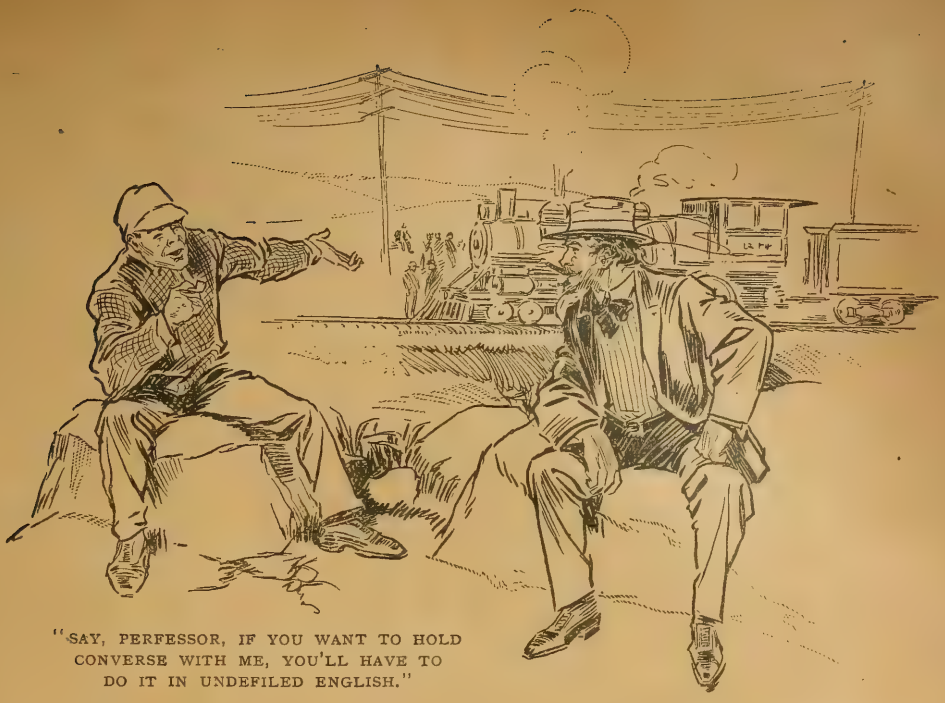
"We didn't think he'd rob the railroad that's treated him good and kind, though; for many's the time we've given him a lift in the short periods when he wasn't in jail. Yes, besides his terms here, he has spent eleven years in California prisons, two in Colorado, and five in New Mexico.

"Well, when he swiped money from our depot at Tucson not long ago, he let himself get caught, and then pleaded not guilty, telling the judge he did so because he knew he would get a longer term in prison than if he pleaded guilty. The judge took him at his word, and gave him fifteen years in this pen here."

"'Thank you, your honor,' says Will Douglas. 'I like that prison better'n any I've patronized. They treat you better there than they treat prisoners anywhere else in this country.'

"And now Will Douglas is home once again. On the way here on the train, he told Conductor Hayes — so Hayes tells us — that his great ambish is to be the official photographer of this pen.

"You see, Will Douglas is a Hot Country criminal. He works his games only where the heat is at its greatest. And he says the prison here is a nice cool place, and that the mess-room where the prisoners eat has got the broiling sun of the desert skinned to death for comfort."



"SAY, PERFESSOR, IF YOU WANT TO HOLD CONVERSE WITH ME, YOU'LL HAVE TO DO IT IN UNDEFILED ENGLISH."

WHAT DID DUGAN DO TO HIM?

BY E. FLORENCE.

He Fell Asleep in Signor Aviati's Balloon and Did a Marathon Athwart the Sky.

UP at Darley's Gap the train was held by a washout which had weakened the bridge piers. The repair gang had arrived, and their work was nearing completion. Meanwhile, the passengers were fretting at the delay and indulging in caustic comments about mismanaged railroads.

Dugan, the fireman, was seated on a boulder, enjoying the solace of his dhudeen, when the college professor strolled up and borrowed a match. After lighting his cigar, he seated himself on another boulder and remarked:

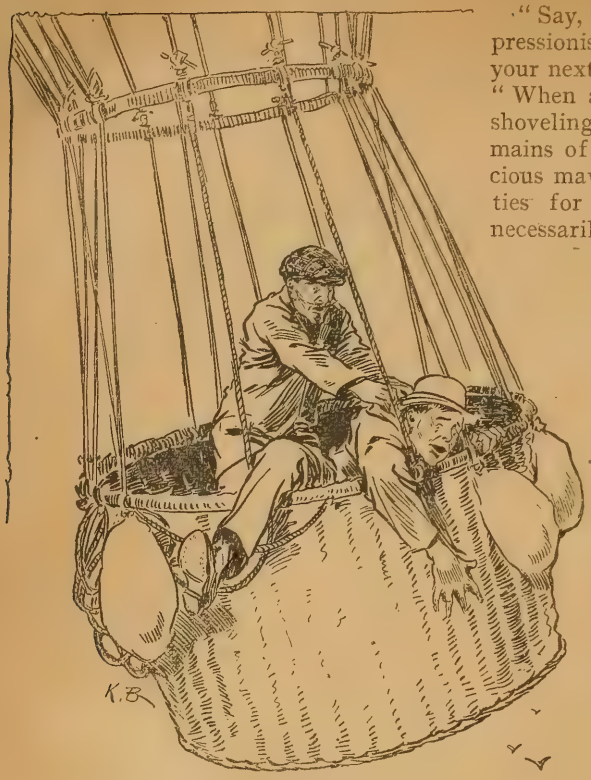
"The rigors of your calling are evidently productive of a disposition which ignores the annoyance incident to events of this character."

"Hey—wot?" asked Dugan quizzically.

"I remarked that you were probably accustomed to such delays as this," reiterated the college professor.

"Say, perfessor," continued Dugan, "if you want to hold converse with me, you'll have to do it in undefiled English, and cut out your linguistic accomplishment. I understand your proposition as stated last, and I wish to remark that you don't see me losing any sleep over the delay.

"There are some on board that sup-



"HE TURNED LOOSE A VOLUME OF LANGUAGE THAT MADE THE BALLOON SWAY."

pressed express who are, no doubt, even now hankering for the mirth-marts of the metropolis, but when you put me in adjacent juxtaposition to a scene like this you place me in what I consider the metropolis of the universe."

"Drawing an inference from the sentiments you express," said the college professor, "I should hazard the opinion that you are attuned with the infinite in nature—er—that is, you are, no doubt, a lover of nature."

"You threw high ace on the second throw, perfessor," replied Dugan. "It's me for nature, every time."

"Communion with nature," continued the college professor, "is commendable, in that it develops the intelligence. When man awakens to the grandeur of nature, he metamorphoses from a barbarian, battling for existence, to a living, thinking intelligence—er—that is, I should say, nature-lovers are always men of more than average qualifications."

"Say, perfessor, just eliminate the impressionistic word-picture prelude from your next observation," cautioned Dugan. "When a man puts in most of his time shoveling the resurrected carbonized remains of primeval forests into the capacious maw of a hog-back, the opportunities for extending his vocabulary are necessarily limited."

"Do you never tire of the monotony of the same mode of locomotion?" queried the college professor.

"Tire of it?" asked Dugan. Why, perfessor, it's the diversification of the business that makes it alluring. I've traveled in almost every kind of conveyance contemporaneous to railroading. I've been an unwilling passenger on a runaway freight, bumping down the mountain; I've raced ahead of a forest fire that would have made Dante's Inferno crack an auroric blush for paucity of caloric, and I've traveled incognito as chaperone to a lot of bellowing bossies on board an Atlantic *bateau*, but the *tour de résistance* in the traveling line was when I took a trip through the trackless atmosphere with Signor Aviati in his big balloon."

"Was it a dirigible?" asked the professor.

"No," replied Dugan, with spirit. "It was a discourageable."

"Aeronautics and the science of aviation are making rapid strides in the conquest of the realm of space," continued the college professor. "Do you realize, my friend, that this is the age of air?"

"Hot or cold?" questioned Dugan.

The professor ignored the irrelevant remark, and continued: "This balloon experience of yours—what was it like?"

"Well," replied Dugan, "it had its incipiency at one of the big county fairs that are held annually in different sections of New Jersey. I was heaving the bituminous on the Jersey Central at the time, and, on one of my off days, I thought I would take in the festivities and mingle with the exponents of the 'Three Acres and Liberty' theory.

"After viewing all the attractions at the agricultural aggregation, and trying to guess the weight of an obessified hog and a number of seeds in a pompous pumpkin, I wandered over to the feed-garage and used my meal-ticket.

"Then, in reconnoitering for a cozy nook in which to take my postprandial siesta, I ran across the balloon, inflated for the ascent of Signor Aviati. The basket looked inviting, so I climbed in when nobody was looking, curled up on the bottom, and was soon sound asleep.

"The next thing I knew was that some one was shaking me, trying to awaken me. Opening my eyes, I recognized Signor Aviati, and in my half-dazed condition I imagined he was serving a writ of ejectment.

"I started to climb out of the basket, when he grabbed me and turned loose a volume of language that made the balloon sway. With my chin and one leg thrown over the edge of the basket, I looked down, and promptly dropped to the bottom of the basket."

"'What has happened, *signore?*' I asked.

"'You fell asleep in the basket, and I only discovered you after we had started up,' he replied.

"'Are we going up?' I shrieked. 'See here, *signore,* just you jam on the air, and let me off at the next stopping-place.'

"'Impossible,' replied the *signor.* 'I cannot let you out without descending, and if I descend I shall not have enough gas to rise again. You may as well accept the inevitable and get what enjoyment you can out of this experience.'

"Well, Signor Aviati finally convinced me that there was no use getting up in the air, so I concluded to keep my feet on the ground, or rather on the bottom of the basket. I looked over the side, and was soon lost in the enjoyment of the novel sensation. We appeared to be suspended in mid air, while the scenery below floated by like a huge panorama. As we gained a higher altitude the buildings seemed to grow smaller, but the toot-onsomble of the scene was magnificent.

"Signor Aviati said we were floating westward, and very soon he pointed to where the Delaware River shone in the landscape like a silver ribbon. On we sailed, and very soon we were traveling over the State of Pennsylvania.

"'Say, *signore,*' I remarked, 'I don't suppose there is any danger of running into an open switch or indulging in a rear-end collision?'

"'No,' he replied; 'you are as safe here as in the cab of your locomotive.'

"We continued to travel for some time, Signor Aviati pointing out the interesting spots, when suddenly the balloon started rapidly downward. I asked the *signor* if he couldn't slack up a little, as I had no desire to knock a dent in the landscape.

"'Here—get busy!' he replied. 'We've got to get rid of some ballast.' He picked up a bag of sand and emptied the contents over the side. I did the same. The throwing out of the ballast seemed to check our downward course, and I noted we were approaching a manufacturing town, judging from the number of great high chimneys.

"After floating along for some time that blooming air-ship started downward again at a fast clip. We sprinkled some more sand over the landscape, and I must confess I was rapidly losing my stock of the same substance.

"'There must be something wrong with the valve,' said the *signor* anxiously.

"'Got a monkey-wrench aboard?' I asked. 'Maybe I can fix it.' Then I realized, from his grin, that I was displaying my superior ignorance.

"Well, we got rid of all the sand, but still continued to descend. Signor Aviati looked worried.

"'Say, *signore,*' I remarked, 'if you've got anything heavy on your mind, you'd better get rid of it. We seem to be carrying too much weight as it is.'

"The *signor* made no reply, and we continued to descend toward that busy burg, while the chimneys rushed up to meet us. Suddenly we banged into something, and came to an abrupt stop.

"'What's up?' I asked, as I suddenly sat down in the bottom of the basket.

"The *signor* gathered himself together and looked over the side. 'Well, I'll be blowed!' he ejaculated.

"I arose and took a peep over, and what do you suppose had happened?"

"I presume you had landed in the

branches of a tree," ventured the college professor.

"Worse than that," replied Dugan. "In our swift drop downward we had shot straight for one of those tall chimneys and had struck it plumb center, and there we were, our basket stuck in the top of that blooming chimney like the corrugated cork in the top of a tall champagne bottle.

"The *signor* got busy, and climbed up the ropes to the gas-bag.

"'Say, sport,' I called after him, 'you've got your nerve with you all right. What you going to do?'

"'You keep quiet,' he replied. 'I'm going to fix that valve.'

"Well, he climbed to the top of that swaying gas-bag, and I lost sight of him. Pretty soon he came down, and said he had fixed the valve all right.

"'Say, *signore,*' I inquired, 'are you in the habit of doing this Santy Claus act in your aerial flights? This trick we've just pulled off may give the natives the impression that we're in the habit of hitting the pipe.'

"'Dugan,' he replied, 'this is no joke. We're stuck, good and tight. Look at those natives down there.'

"I looked down, and saw a lot of men gesticulating wildly. 'What appears to be the matter with the wildly waving working men?' I asked.

"'I guess they want us to get off the chimney,' answered Aviati.

"'Why should they be so anxious to have us vacate our snug harbor?' I questioned.

"'Can't imagine,' replied the *signor*.

"That they were extremely anxious that we should depart was evident from their actions. They stood there and waved their arms and shook their fists at us, and even tried to shout their desires. One fellow even got a megaphone and pointed it our way, but his voice failed to reach us.

"Then I noticed one of the grimy mechanics running toward the fields, carrying a flat, oblong object. He skirmished around for a while, and I realized that he was trying to raise a kite. Finally he got it up, and it dawned on me that he was trying to send it our way.

"'Looks as though there was a message due here shortly,' I remarked.

"'Well, I guess we're equipped for taking care of that kind of wireless,' commented Aviati.

"That fellow was certainly an expert in the art of kite-flying, for we could see it coming directly toward us. We waited until that aerial epistle-bearer got within reach, then Aviati grabbed it, while I held on to his coat-tails. On the face of the kite was written:

> If you don't want to be roasted alive, get off the chimney, quick. We pull our next blast in half an hour.
>
> THE ENGINEER.

"The information was startling. We looked at each other in dismay. There we were, marooned on top of a fiery volcano that was likely to go into executive session shortly. Suddenly I realized that the bottom of the basket was getting hot.

"'Say, *signore,*' I remarked, 'don't you feel the heat coming up the chimney?'

"'Yes,' he replied; 'I've noticed it for some time, and it has given me an idea. If we can cut a hole in the bottom of the basket, and let some of that hot air into the gas-bag, it will make the gas more buoyant, and we will be able to rise again. Of course, it will be necessary for you to get out on top of the chimney and loosen up the basket.'

"'Yes,' I replied, 'that's all very pretty; but how are we going to steer that superheated oxygen into that prancing gas-bag? *Signore,* suppose you appoint yourself a committee on ways and means to devise a scheme for escorting the eager air to the waiting bag.'

"'I have it!' he exclaimed excitedly. 'I have a scheme for getting that hot air into the gas-bag. Have you a knife? Good! Take off your coat and cut the sleeves out at the shoulder, and we will put my plan into execution.'

"I got busy, and ruined my best coat. The *signor* handed me his coat, and I cut the sleeves out of that also. Then he put them together like a stovepipe, fastening them with pins. That gave him a sort of tube about ten feet long. He took one end of it and, climbing up into the ropes supporting the basket, he managed to reach the neck of the gas-bag, which extended down three or four feet.

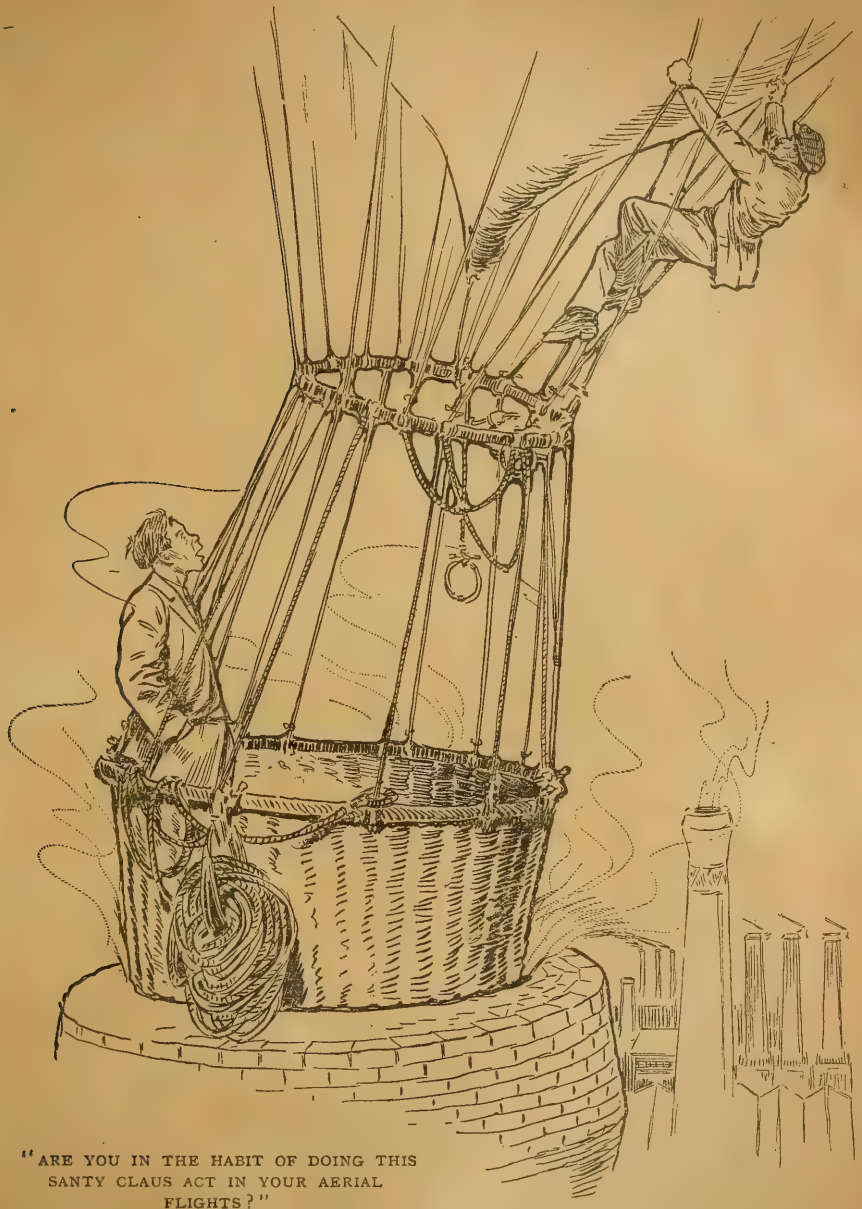
To this he fastened our improvised tube and descended into the basket.

"Then we got to work and cut a hole about three inches in diameter in the bottom of the basket. As the piece dropped down the chimney a blast of hot air shot up through the hole. The *signor* grabbed the loose end of the tube and held it in position over the opening.

"'Quick!' he cried. 'Get out on top of the chimney and see if you can't loosen the basket.'

"I didn't relish the assignment, and protested. 'Suppose I fall off, or suppose the balloon gets away before I can climb back?' I cried.

"The *signor* evidently didn't like my objection, for he let loose a lot of cuss words in his native tongue. His garlic-tinctured language seemed to have a seda-



"ARE YOU IN THE HABIT OF DOING THIS SANTY CLAUS ACT IN YOUR AERIAL FLIGHTS?"

tive effect on me, for I got out on top of that stately stack and pulled at the basket with all my might.

"The balloon, meanwhile, was swaying and tugging like all possessed. Suddenly I felt the basket loosening up and, giving a last tug, I sprang in just as we pulled away from the chimney's loving embrace and went soaring skyward.

"We didn't make our get-away any too soon. From a safe distance we saw a volume of flame suddenly burst from the chimney, which would surely have cremated us had we been there."

"A very narrow and sensational escape," commented the college professor. "The necessity of quick action invariably calls into play the latent resources of man."

"Yes, but our troubles were not yet over," continued Dugan. "Signor Aviati announced that we could not possibly land for some time, owing to the rough and wooded nature of the country over which we were traveling.

"Counting the time we were stuck on the chimney, we had been up in the air about three hours. The sun was sinking rapidly, and if we did not effect a landing pretty soon we would be compelled to remain up in the air all night.

"'*Signore,*' I inquired, 'have you a buffet-car attached to this outfit? A club-sandwich and a bottle of ale would be going some just now.'

"For reply the *signor* produced a flask from the region of his hip and handed it to me. Unscrewing the stopper in gleesome anticipation, I said: 'Well, here's how, *signore*. Prosit!'

"I took a long pull and handed the flask back. 'Say, *signore,*'—I spluttered, 'that stuff isn't *spiritus frumenti.*'

"'No,' he chuckled; 'it's tea. The Aeronautists' Union prohibits the taking of spirits into balloons.'

"'I shouldn't think you'd be afraid of the walking-delegate up here,' I grumbled.

"We continued floating over the wooded country, and presently our balloon developed a new trait. We appeared to be sliding down hill—that is, we went forward and downward at the same time. Our anchor was swaying at the end of the rope, about a hundred and fifty feet below. Suddenly we stopped with a jerk. The anchor had caught in the branches of a tree.

"'Well, *signore,*' I observed, 'I guess we're safe now.'

"'No,' he replied, 'we can't make a landing among those trees. We've got to get that anchor loose somehow.'

"'Do you think it is caught good and tight?' I inquired.

"'It's caught too blamed tight,' he replied.

"'Good!' I exclaimed. 'I'm going to shin down that rope. You may continue your journey, if you wish, but it's me for the haunts of man,' and I climbed over the edge of the basket, and started down that rope like a jolly Jack tar.

"I had descended about three-fourths of the distance, when I felt the anchor break loose. We started ahead once more, with a frightened coal-heaver hanging onto that rope like grim death, and swinging in the breeze like the pendulum of an aerial horologe.

"We raced along for some time, when suddenly I heard the shrieking of a locomotive whistle. It was a familiar and welcome sound, but not very reassuring to one in my position.

"Looking down, I noticed that we had cleared the wooded country, and were traveling along over a railroad. A fast freight was approaching in the same direction. The balloon continued to descend. As the locomotive passed beneath us the anchor barely missed hitting the smoke-stack. The train passed by with a roar, and suddenly, as the last car passed, there was a jerk on the rope, which nearly dislodged me, and we went sailing along in the wake of that train like a hungry hawk chasing a plump prairie pullet.

"The anchor had caught in the brake-wheel of the rear car.

"I hung on like grim death, while the scenery rushed beneath me. 'This is all right,' I mused, 'so long as that towing engine don't go under a bridge or into a tunnel. I wonder whether that engineer has recently passed the eye-test? He don't seem to notice the local coloring that I am giving to the occasion.'

"I was beginning to give up hope, when that thug at the throttle whistled 'down brakes,' and the train quickly came to a standstill. I negotiated the

distance between me and that freight in record time, giving a good imitation of the famous slide for life.

"The crew came running back over the tops of those cars to see what kind of game they had landed.

"'Say, you durned sky-pilot,' growled the engineer, 'don't you know better than to hold up a freight-train?'

"'What's eating you, you consarned engine-pusher!' I sassed back. 'I happen to be a railroad man myself, and if you know your business you won't have to work very hard to make that hog-back make up the little time we delay you.'

"Then I gave them the signal of distress, and they took me into the caboose and administered to my spiritual needs. When we emerged I found that the *signor* had let the gas out of the balloon and effected a landing. We gathered it up and loaded it into an empty freight-car. Then the *signor* and myself climbed into the caboose and continued our journey.

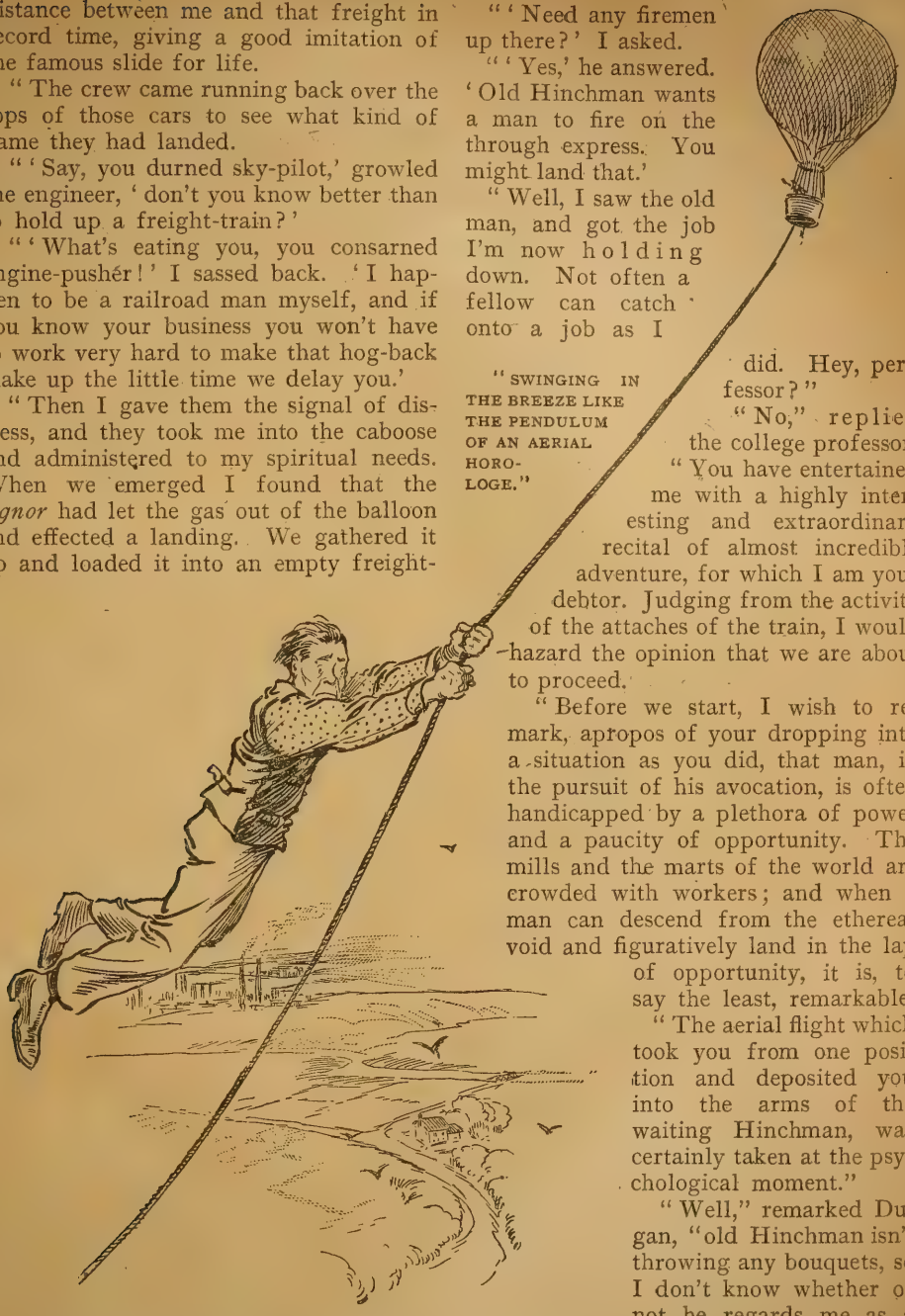
"'Where you bound for?' I inquired of the brakeman.

"'Altoona,' he replied.

"'Need any firemen up there?' I asked.

"'Yes,' he answered. 'Old Hinchman wants a man to fire on the through express. You might land that.'

"Well, I saw the old man, and got the job I'm now holding down. Not often a fellow can catch onto a job as I did. Hey, perfessor?"



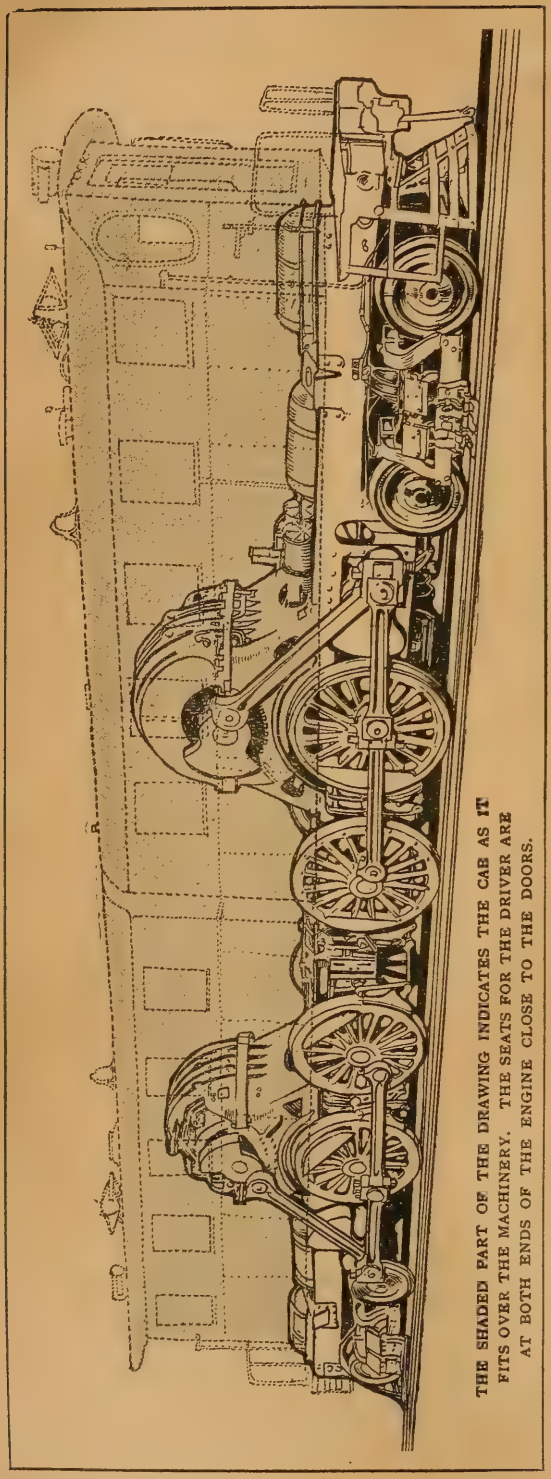
"SWINGING IN THE BREEZE LIKE THE PENDULUM OF AN AERIAL HORO-LOGE."

"No," replied the college professor. "You have entertained me with a highly interesting and extraordinary recital of almost incredible adventure, for which I am your debtor. Judging from the activity of the attaches of the train, I would hazard the opinion that we are about to proceed.

"Before we start, I wish to remark, apropos of your dropping into a situation as you did, that man, in the pursuit of his avocation, is often handicapped by a plethora of power and a paucity of opportunity. The mills and the marts of the world are crowded with workers; and when a man can descend from the ethereal void and figuratively land in the lap of opportunity, it is, to say the least, remarkable.

"The aerial flight which took you from one position and deposited you into the arms of the waiting Hinchman, was certainly taken at the psychological moment."

"Well," remarked Dugan, "old Hinchman isn't throwing any bouquets, so I don't know whether or not he regards me as a heaven-sent emissary to fill a vacancy. All I know is I landed on the job, and I'm holding it down. I guess now I'll get busy and make steam, so we won't have any trouble pulling your vocabulary. Orry war, perfessor."



THE SHADED PART OF THE DRAWING INDICATES THE CAB AS IT FITS OVER THE MACHINERY. THE SEATS FOR THE DRIVER ARE AT BOTH ENDS OF THE ENGINE CLOSE TO THE DOORS.

Largest Electric Engine.

Its Unique Drive and Simplicity of Control—To Be Used for the Pennsylvania's Underground Service.

AN untrained eye, glancing at the cut on this page, will doubtless be puzzled for a moment to decide what definite class of machine the monster belongs to. At first sight, if it were not for the aid of the dotted diagram, it might be mistaken for a track-laying machine, or a wrecking engine, or almost anything but a high-speed, powerful electric locomotive.

That is what it is, nevertheless. It is the last word in electric locomotives, and it is spoken by the Pennsylvania. The larger of the cuts opposite represents the chassis of the first electric locomotive to be used in the New York tunnel extension of the Pennsylvania. The smaller cut is the complete locomotive.

When work was first started on the Pennsylvania tunnels and station the engineers of the railroad company, cooperating with those of the Westinghouse Electric and Manufacturing Company, took up the problem of designing an electric locomotive which would cope successfully with the heavy grades necessary in the river tunnels. Since then electric locomotives have been designed, constructed,

and tested, and special recording track sections have been laid and electrified.

Number 3998, the locomotive shown, weighs 330,000 pounds. It will develop 4,000 horse-power—about three times as much as a giant freight locomotive—and could pull a heavy freight-train at a speed of some sixty or seventy miles per hour. In appearance, it is similar to two passenger coaches, with huge driving-wheels and rods.

The cabin conceals the giant motors with which the driving-rods connect, but a view of the chassis gives an excellent idea of the intricacy of the machines, which are soon to haul some one thousand trains in and out of New York station every day.

The "Pennsylvania" type locomotive, as the design is named, is built in two sections; that is, there are two cabs and two running gears, jointed at the middle. Each section has eight wheels, four of which are drivers, sixty-eight inches in diameter, the other four being truck wheels, thirty-six inches in diameter, constituting in their arrangement and weight distribution what in steam locomotives is called the "American" type.

Two pairs of drive-wheels are coupled, not to the customary cross-head and pistons, but to a crank-shaft, called a jack-shaft, in line with the driver-axles, which in turn is coupled to a motor crank-shaft, to which a single motor delivers all its power. The cranks are ninety degrees apart, so that there can be no "on-center" position. The motor-crank revolves uniformly and at constant effort.

The single motor weighs, without gear, forty-five thousand pounds, and in weight and power it is the largest railway motor ever constructed. It projects into the cab and, in fact, fills a large part of it.

The main control apparatus is in a bulkhead centrally located so that there are ample passageways along the sides. At one end is located the electrically driven air-compressor for operating the air-brakes.

The controller on the "Pennsylvania" type is scarcely as large as that on a Hoe printing-press. None of the main power passes through it, as it is really a switch corresponding to a telegrapher's key, operated by electro-pneumatic means. With a lever, which can be moved with one finger, the engineer can admit to the locomotive a current equal to that available in a hundred trolley-cars.

The total weight of the locomotive is 166 tons, 103 tons being mechanical parts and 63 tons for electrical parts. The maximum speed is from 60 to 70 miles an hour under load. The maximum draw-bar pull is 60,000 pounds, and a mechanical shock without injury can be sustained up to 600,000 pounds. The total wheel-base is 56 feet, and the weight on drivers 14 tons.

PENNSY GOES TO FARMING.

THE Pennsylvania Railroad has bought a farm of fifty acres at Bacon, Delaware, on the Delaware Railroad, to operate as an experiment station for the farmers of Maryland, Delaware and Virginia.

President James McCrea made a trip through the peninsula and saw thousands of acres idle, with the adjoining farms flourishing. Knowing the success of Long Island experimental farms, which have now been in operation four years, Mr. McCrea suggested the present experiment.

The cooperation of the farmers of the peninsula in this enterprise is already assured, and the State agricultural colleges and horticultural societies are supporters.

This peninsula is favorably situated. Fruit and vegetables are delivered in one day in Maryland and Pennsylvania, and fast freight trains are run to all points east of the Mississippi.

The demand is greater than can now be met, and the railway is taking steps to aid in increasing the number of farmers to supply it. H. S. Lippincott, a graduate of the agricultural college at Cornell University, is superintendent of the farm.

He will visit the granges and farmers' institutes on the peninsula and will be prepared to make addresses. He will make exhibits of some of the products raised on the farm.

"Uncle Holly's" Record Run.

BY SAM HENRY.

THE TRUE STORY SERIES. Many people believe that the fastest time is made by limited trains. This is true so far as long distances are concerned, but frequently a local train running between small towns will make faster time than those having the right of way.

This is a story of a race between that famous train known as the Sunset Limited and No. 19, a local passenger. That is, it is a race in so far as the local made the best time under pretty difficult circumstances. The train had one hour to make the distance between Rosenberg and Houston; and, all things taken into consideration, it is a pretty slick run.

Holly Pierson, on No. 19, Was Ordered Out Under the Rule of First In First Out. He Had a Hot Time Keeping Ahead of the Limited.

TRUE STORY, NUMBER FORTY.

HOLLY PIERSON, whom we lovingly called "Uncle Holly," had been with the Southern Pacific ever since the old Galveston, Harrisburg and San Antonio Railroad had reached Alleyton, Texas, and was running trains from Harrisburg, Texas, to Alleyton.

As many as ten of the Southern Pacific's best living engineers, now classed as old-timers, with possibly as many more gone over the "Great Divide," had shoveled coal to make steam for "Uncle Holly's" engine.

Men in all walks of life were better citizens for coming in contact with this grand old man, not from any counsel he gave them, but from his splendid example.

He observed all rules strictly, never exceeded a speed limit, always had his train on time to the minute if there were no delays—but when late, he would make up very little time.

It was said that if the despatcher ordered him to make an unusual run, "Uncle Holly" could be depended upon to carry out the order; and, never having had an accident, the officials had unlimited confidence in him.

Up to the writing of this story, I had

EDITOR'S NOTE: All the stories published in this True Story Series have been carefully verified by application to officers or employees of the roads or companies concerned who are in a position to be acquainted with the facts. Contributors should give us the names of responsible persons to whom we may apply for such verification, in order that fruitless inquiries may be avoided. This condition does not imply any lack of confidence in the veracity of our contributors, but is imposed merely to give greater weight and authenticity to the stories.

Series began in the October, 1906, Railroad Man's Magazine. Single Copies, 10 cents.

been riding as a mail-clerk for twenty-five years, right behind the engine, and I believe that no one can better judge the merits of an engineer than a mail-clerk, because he gets the full force of an engineer's action.

During those twenty-five years of service, the most exciting run I had was behind "Uncle Holly," in 1894, between San Antonio and Houston, Texas.

At that time the Southern Pacific was running their Sunset Limited three times a week, due to leave San Antonio at 2.15 P.M., arriving at Houston 7.45 P.M., making only three stops in the two hundred and ten miles.

No. 19, originating at C. P. Diaz, Mexico, was due to leave San Antonio at 11.20 A.M., arriving at Houston at 7.15 P.M., but on this particular day we were very late, arriving at San Antonio at 2 P.M., the Sunset Limited at 2.05 P.M.

After the limited arrived it was found that something was wrong which would cause a thirty-minutes delay. No. 19 was ordered out at 2.15 P.M., and under the rule of first in first out, "Uncle Holly" and Peter Vahey, due to leave with the Sunset Limited, were ordered, instead, to take No. 19.

These two men were the oldest engineer and conductor, in point of years and service, on the G. H. and S. A., an eight-hundred-mile part of the Southern Pacific System.

Several railroad boys, standing where "Uncle Holly" could hear them, said that there was nothing wrong with the limited; it was only a trick to get him on No. 19. Being sixty-four years of age, he was too old to make the time of the limited, which would pass No. 19 twenty-five or thirty miles out, under the fifteen-minute rules.

"Uncle Holly" was a very silent man. He said nothing until Peter Vahey came up with orders and to compare watches. After reading the orders that the Sunset Limited would run thirty minutes late to Glidden, he started to climb his engine, saying: "Pete, the limited will never pass me to-day if we are not stopped by orders."

I knew that I was about to enter upon one of the most exciting experiences of my train life.

Our engine was sixty tons, with five-foot drivers, and we had six cars. The limited had the same number, only her cars were of sleeper weight.

We got the signal at 2.15 P.M. On the start was a heavy hill, a hard pull, where a good deal of slipping of drivers was required to get out; but the moment "Uncle Holly" touched his throttle the engine seemed to enter the race with human interest. She picked up the train without a slip. When we hit East Yards, at the top of the hill, we were making forty miles an hour.

Down a steep hill we went, round a curve, up another hill—faster, faster, all the time. The engine seemed alive!

I had my watch and a time-table before me all the way, and the rate we were making strained every nerve to the highest pitch. At Seguin, thirty-five miles out, we had made three stops and had gained a minute. From there to Luling, twenty-five miles, I was certain we would lose two or three minutes, because of the heavy hills and many curves —but on we rushed.

I thought that we would not stand the curves while going at such awful speed, but just as we would get ready to hit with full force we would feel the air-brake slip on, and around we would go, easily, without much swing.

At Luling we had picked up three minutes of the limited's time, made five stops, and flagged a railroad crossing. While taking water and oiling around, I heard Peter Vahey reading a despatch to "Uncle Holly," which said: "Track is clear for No. 19. We have confidence in Pierson's judgment."

The next seventy-five miles were almost from one curve to another, from one hill to another, with stops more frequent, but it seemed to have no effect on "Uncle Holly."

On! On! He almost flew!

The passengers had caught the spirit of the race, and, looking back as we swung around the curves, we saw men and women waving as if to encourage "Uncle Holly."

One hand on the throttle, the other on the air-brake, he looked straight ahead —and needed no encouragement.

At Schulenburg, one hundred and five miles, we were thirty-five minutes ahead of the limited. Ten minutes for lunch-

eon was announced. We generally had twenty minutes for dinner, but the passengers were so worked up over the race they declared that they were not hungry, and protested against even the ten minutes allowed for luncheon.

We left Schulenburg twenty-five minutes ahead of the limited.

The coal in our tender was getting low and required double passing; but the porter volunteered to pass it down until Glidden was reached, where we could take on more at the shoots.

From Schulenburg to Houston it got out that No. 19 was beating the limited's time. Everybody was at the station to wave us encouragement.

We arrived at Glidden twenty-eight minutes ahead of the limited, loaded our tank with coal, and received orders there that the limited would be turned loose to make up her lost time.

The conductor and others lost hope when this was announced, but not "Uncle Holly." His jaw just set a little firmer, and not a word left his lips.

From Glidden to Houston is about eighty-eight miles of straight track over an open country. We left Glidden, where it seemed our real race began, twenty-four minutes ahead of the limited, and I have never heard an engine worked as that one was. I have often wondered how the machinery stood the strain.

The cinders rained upon the top of my car; the throb of the engine must have been heard for a mile, and the noise was so great that I had to scream to the man in the car with me to make him hear. At Columbus, where we passed right through the heart of the town, there was, for about a mile, a strict six-mile-an-hour rule, but on that day the people were out, even to the chief of police, all cheering us on. "Uncle Holly" made about twenty-five miles an hour through that town.

At Eagle Lake, allowing the limited to make five minutes, we were still twenty-five minutes ahead. From there to Rosenberg, over a straight, open prairie, with a fine track, I figured that we would make the run in forty minutes with one stop, but we only needed thirty-five minutes.

I learned afterward that the passengers almost fought for space on the rear car to watch for the limited's smoke, but no smoke was to be seen. At Rosenberg it was conveyed to us that we had one hour in which to make Houston, thirty-six miles away, with five stops and two crossings to flag, also to slow through the town to the depot.

On that part of the run, "Uncle Holly" showed the hand of a master. The run of thirty-six miles was made in fifty-five minutes. We rolled into the Houston and Texas Central Depot at 7.45 P.M.

In five hours and twenty minutes the run of two hundred and ten miles, from San Antonio to Houston, had been made, including twenty-seven station stops, five crossings flagged, and ten minutes taken for luncheon.

The limited pulled into the depot thirty-five minutes later, having picked up only five minutes from Glidden. Her crew was staring with surprise. "How did you get here?" they asked. "Why, we passed you at Eagle Lake, we thought."

"Uncle Holly's" run has never been equaled by a local train over this division, and, I am told, five hours is the best time that has ever been made by a special.

The passengers crowded about "Uncle Holly" at the depot, and plied him with questions—but not a word could they get from him. He went about as coolly inspecting his engine as if he had just made his regular time.

His run was the talk of the road for a number of years, and many railroad men have had to be shown the records before they could be convinced. To-day, with ninety-pound steel, one-hundred-ton engines, and a seven-hour-and-twenty-minute schedule over this same division, it is hard to make some of the new men believe that "Uncle Holly's" time was made over a track where there was only one hundred and seventy miles of sixty-pound steel, with the other forty miles a lighter rail.

"Uncle Holly" has been retired on pension for a number of years, having passed thirty-five years as an engineer on this same division.

He is still hale and hearty, and long past the threescore-and-ten period allotted to man.

THE GOLDEN SERPENTS.

BY GEORGE E. HALL.

Greaser Beans Gave the Prospectors a Tip Which Led to Something Unusually Exciting.

SEVERAL years ago I was sent by a syndicate of Eastern capitalists to look over a gold-mining concession in the State of Oaxaca, Mexico, which lies toward the southern end of the land of tamales and tortillas. The claim was in one of the foothills of the Sierra Madre, about twenty miles east of a little town called Octolan—a poor collection of flea-bitten huts and high-flavored greasers. I took with me five men who could shoot straight and stood for nothing that wore hide or hair, because, for some reason or other, *Americanos* didn't stand at par in those parts.

We made camp, and began to round up the necessary local help. At last we did manage to rope a cook and a sort of general help. The first was a queer little fellow, a new pattern of "greaser" to me. He was small, and had a head and face unlike any Mexican that I had ever met. That he wasn't pure Mexican I was positive, and that he wasn't the usual half-breed I was dead certain.

What he really was I couldn't make out, and he wouldn't tell, although I tried more than once to draw him out about himself. The most curious thing about him was his high, sloping forehead, and nose shaped just like an eagle's beak. He sometimes put on airs like a prima donna, and served our *chile con carne* as if he was doing us a great favor. Beans, we called him, for his real name had five syllables to start with and more to follow.

Our other helot, José, was just bad half-breed. Like all of his kind, he was a thief by nature. He did general chores, carried instruments, loafed when he could, and ate and slept most of the time.

Beans seemed to take a liking to me from the start. His ways of showing this were various, including queer hot hashes and soups that he had made for me only. When work was over for the day, the little chap would squat contentedly as close to me as I'd let him, huddled up in his *serape,* and listen to yarns. The boys called him my "pet monk."

Beans when he liked would speak surprisingly pure Spanish, although he had a fair smattering of good English. Once or twice, too, I overheard him crooning a kind of chant in a tongue that was new to me. When I asked him what it was, he shut up hard and tight as a sun-dried steer hide.

The boys liked to have fun with Beans in their own way, and sometimes they'd go a trifle beyond. Then Beans would look appealingly at me—and I'd usually call a halt; not exactly because I was afraid he'd get hurt, but because he was a good cook and I didn't want him to quit. He didn't know this, however, and so would whisper his thanks in his musical lingo and stick closer than ever.

Between José and Beans there was bloody war all the time. The half-breed was everlastingly trying to raid the commissariat department when Beans wasn't looking; and when Beans would get wise, he'd go for José like mad.

One evening, when dinner was over, while Beans was busy cleaning up in a willow lean-to that served him as a kitchen and storeroom, José, trying to swipe some canned stuff, was pounced upon by the little cook. In an instant the pair—clawing, spitting and swearing—rolled out of the lean-to.

The moon was full—one of those big Mexican moons that makes the night almost as light as day. So we could see the little tragedy quite plainly without the need of footlights.

Suddenly Beans's single upper garment—the usual shirt-like affair of the poor Mexicans—was torn from the neck down by the infuriated José. As the garment parted, I saw Beans's hands release their grip on the throat of his opponent and fly to his own throat, covering it and the upper part of his chest with a sort of desperate eagerness.

As he did so, however, I caught sight of something yellow hanging from his throat, over which his hands snapped and remained. José, like myself, had evidently seen the thing; and while, with one hand, he tried to put Beans's Adam's apple out of place, with the other he tugged away at the cook's hands, evidently with the intention of getting at what was under them.

At this point poor Beans gave a gurgling cry for help, and I stopped the fight. José glared sullenly at me, and hesitated when I ordered him to release Beans and keep away from him, too. Then I helped the little chap to his feet. But his hands remained as they were, and he hurried away to his lean-to, muttering.

Beans didn't show up that night, contrary to his usual custom. José disappeared somewhere in the shadows, and he, too, was invisible for the rest of the evening. As for the rest of us, we had had a heavy day and a hearty meal, and we turned in somewhat earlier than usual.

Judging by the position of the moon, it must have been about two o'clock in the morning when I was awakened by a shrill scream, followed by another, and yet another. Swinging myself out of my hammock and taking my gun from the tent-pole, I ran in the direction of the sounds.

The moon threw the shadows of a clump of mesquit on Beans's lean-to; but in the midst of the darkness I could make out a confused, struggling mass, which separated itself as I came near into two men, one of whom made tracks in a way that justified me in blazing away at him. At the third shot I heard a groan from the darkness, which told me that one of my bullets had found flesh. Then I turned my attention to the man still on the ground. It was Beans.

By this time the other boys were on hand; and we took Beans over to my tent, where we struck a light and looked him over. He was pretty badly done up. There were knife-marks over most of his face and chest, and from one ugly cut in the region of the right lung came little bubbles of blood. Beans was nearly all in.

"José!" I cried, pointing to his wounds.

"*Si, señor,*" he said weakly, throwing up his hand.

"Allen," I said to my chief assistant, "I think I have plugged the half-breed out beyond the kitchen. Go look him up."

"And I'll get a rope," said one of the others.

Beans raised himself with an effort and beckoned me to put my ear close to him.

He spoke to me in Spanish. "*Señor,*" he said, "ask them all to go. I have something to tell you which no other must hear."

"Mean this, Beans?" I asked.

He nodded, and replied slowly: "I go—hence—pretty soon. I have no time for much talk. Hasten; send them away."

I did so; and Beans, between hacking coughs due to his injured lung, began:

"How I came here, *señor,* it is no matter. Who I am, though, concerns what I have to tell you. Listen. I am a descendant of the Incas. There are few, very few of us left, and none of us are of pure blood. But, nevertheless, we have that about us which makes us different from these—these Mexicans."

He spoke the last word with a sort of bitterness and contempt, while his left hand seemed unconsciously to stray over his face and head, as if these could attest that he was not of the race amid which he lived. "You will ask why I am here—in this region—or how I came here when my people, those who remain, are so distant?"

Although it is not generally known, there still live in a radius of thirty or forty miles of the city of Mexico, a half dozen or so families that claim descent

from the Incas. These people are mighty modest about their ancestors, and it is only when an outsider knows them more or less intimately, which is not often, that he gets an inkling of the fact that in their veins runs the ancient royal blue blood of an older race. You will understand, therefore, what poor Beans meant when he said that he was far from his people.

I wiped the blood from his mouth, placed him in as comfortable a position as I could, gave him another drink, and he continued:

"You are learned, *señor,* and, I have no doubt, know as much about the past of our people—the past that was before Spain destroyed them. When it was seen that destruction was sure, certain of the priests—they who guarded the treasures of our great temples — were given the golden serpents and told to hide them in a place known only to them and the chief of the temples.

"The golden serpents! What were they? I will tell you. The worshipers brought gold in those days in abundance to the temples as offerings to the priests and for beautifying the high places.

"Much of this gold was devoted to the gods, and to them only. It was fashioned by skilled workmen into serpents—beautiful, watchful — having crimson eyes. The Spaniards were many in the land, lying roundabout, watching lest any gold escape them, killing, crucifying, and burning those who ran counter to their cupidity.

"When the priests drew near to the hiding-place, they found that some traitor had told of it. They hastened to another hiding-place, but found the Spaniards awaiting them.

"Then the priests sent back runners to the chief, asking counsel. The chief replied, saying: 'Go far southward, where the curse of the Spaniard is yet unknown, and select a hiding-place. Tell none where the serpents lie hidden, save three, chosen by you.

"'Give each of these three one of the golden serpents to protect them from the invaders. If a custodian of a serpent die, he shall will the serpent in his charge to another, and so on through the ages, until the time for the annihilation of the invaders shall come.'

"One of these serpents has been passed down to me."

Another fit of coughing seized Beans, and I thought that he would breathe his last; but he revived, and, extending his left hand, which all this time had remained tightly closed, opened it and showed me a little pouch made of what was apparently golden scales.

"Open it, *señor,*" he gasped.

I did so, and inside I saw the snake, which is now on my fob, and a small, tightly folded piece of what appeared to be deerskin.

"Unroll," whispered Beans. I obeyed. The skin was about six inches square, and on it was traced a rude map.

"The priests journeyed on and on," went on Beans feebly, "until they came to a spot about five miles from where we now are. The map tells.

"It was to get this map and the serpent that José stabbed me. See! Here on the map. Go east—to the river that wets the foot of the hill of two heads. And thou shalt cross the river beneath the shadow of the heads. So, climbing, thou shalt pass up to and between them and descend to the other side, and there rest.

"And the morning following, rise before the sun shows above the hills across the valley, and watch. And presently thou shalt see the tip of one rock on the farther side of the valley turn into blood beneath the sun—one rock and no other. Go thither—to the rock—and behind it, and hidden by it, thou shalt find a stream, because at the point of its issuance it falls into a basin studded with pointed rock.

"It is known as the Basin of the Spear Heads. Now, go up the stream—a mile or more — until thou comest to Painted Rock on the north bank. And in the rock, and hidden, as it were, by a rock door, is a hole that leads into a cave —the dwelling-place of the serpents.

"Take this, the snake here, with thee, placing it on thy breast, thus. When my people ask, give them the gold that you find there—they will—"

Beans raised himself, touched my hands, choked, and fell back dead.

Just as I laid the body of the poor little chap in my hammock, I heard a slight noise from the other side of the tent, and, looking up, saw the face of

José peering through the flap. He disappeared before I had a chance to take a shot at him; but, as I dashed toward him I heard the boys returning from the opposite direction.

We put in an hour or two trying to round-up that half-breed, but were unsuccessful. I had, though, an uneasy conviction that José had overheard some or all of Beans's talk about the serpents. Then I told the others what had happened, and after a talk which lasted well on toward dawn, we turned in, determined to test the truth of Beans's story.

It took us nearly three days to locate the hill described by Beans, and another day in getting at the whereabouts of the little stream, Painted Rock, and the covered hole. The stream was low at the time, and we had no difficulty in wading to where the tall rock, with its strata of brilliant color, stood out boldly and abruptly in the little cañon through which the water ran.

Near the rock, the stream channel dropped a little, or rather, the rock face retreated so as to leave a sort of rough pathway. Suddenly Jack Winstead, one of our party, stopped and held up his hand warningly. Then he beckoned me and pointed to something on the bank.

I could see nothing.

"Somebody has been here before us," he whispered. "See the signs?"

I looked closely, and saw that Winstead's keen eye had detected some bruised blades of grass, broken twigs, and displaced pebbles.

"Hold the rest of the boys together while I look this thing over." He proceeded cautiously to follow the path for a few feet, nosing it like a hound that is on a hot scent.

Then he returned to us.

"It is an Injun that has been here; foot signs show that," he muttered. "Judging by the looks of things ahead, this is the only path to and from the hole."

I saw what he meant. Beyond the rock the path ceased, and the cliff face extended indefinitely onward, the water washing its foot as far as we could see.

"Who ever went up there has not come back," continued Winstead, "and the probability is that he is in the hole now."

He loosened his revolver from its holster, the others followed suit, and thus we crept cautiously toward the hole, which was partly hidden by a rock fragment or door and a growth of tall weeds. As we drew near, we heard, rising above the rattle and ripple of the stream, a choking noise.

However, there was no stopping, and so I led the way. Not without an effort of will, I parted weeds in front of the mouth of the hole and looked in.

I shall never forget the sight just inside the entrance. José was standing upright, his naturally swarthy face a dirty yellow with agony and fear, his eyes protrading, his mouth open, from which were issuing the rattling screams that we had just heard. But about his body, and from his ankles almost to his neck, was twined an enormous snake, whose scales shone with a kind of vivid yellow metallic glitter, such as I had never before seen on a reptile.

As I looked, José, with a final, despairing effort, got the thing by its throat, so as to prevent it from completing its final and fatal coil around his neck. So they stood, the frightful reptile with its mouth wide open, hissing and glaring into the eyes of the man, who in turn glared back at it with eyes that were barely less horrible than its own.

Paralyzed at the sight, none of us moved for a second or two. Then Winstead drew his revolver. As he did so, José's arms relaxed, and like a flash the snake twisted itself around his throat. We could see a ripple of muscular effort run through its body. Blood issued from the half-breed's mouth, nose, and eyes. There was a horrible crunching sound, and snake and man fell to the ground.

We opened fire on the reptile, but, with incredible swiftness, it uncoiled itself and disappeared in the inner recesses of the little cavern, apparently unharmed, leaving the crushed body of its victim within a few feet of us.

"What is the cursed thing, anyhow?" Winstead whispered huskily. "The boas you get in the Brazils and down around those parts don't come so far north as this. That snake, too, ain't any kind that grows in Mexico."

We were silent at least a quarter of

an hour or so, each trying to think out the next thing to be done. One thing was certain: we had to get the body of José out of the cave and give it decent burial. With the sweat of fear trickling down us, we began our unpleasant task. The long one with the yellow scales we knew was somewhere hidden in the cavern.

"Well, boys," I said, when we had finished planting the unlucky man, "what next?"

"Back to camp for mine," said Allen, who was as vacillating a proposition as ever looked through the sights of a Colt. "I allow I ain't a cravin' no more horrors."

I was rousing glad that the boys weren't ardent on going back to the cave, for my nerves were twittering like a prairie-dogs' parliament.

So back to camp we got. None of us could eat, and we turned in early. Also, we turned out early, for that night the heavens opened and the rain descended and the bottom fell out of a year-ahead supply of wind, thunder, and lightning, which we caught all at once.

When the weather did let up, the first thing we did was to start for Painted Rock. It took us nearly three days to reach our objective, the delay being caused by the fact that a lot of usually insignificant creeks and streams had swelled themselves up to an unfordable stage. So we had to wait till they shallowed up.

When we finally fetched up to the point where our streams fell into the Hole of the Spear Heads, the latter was chock-full of débris. The bed of the stream, too, was pretty well chock-a-block with stuff that didn't belong there. The banks on either side showed the height and the torrential force of the water during the storm.

We found the mouth of the hole packed tight with a tangle of reeds, small trees, and mud. It took hours to blast the entrance clear. I crawled inside. The others came behind, each with his Winchester and a couple of blazing candles.

The cave rose abruptly right from the mouth of the hole, till we couldn't see the roof. It ended as abruptly in a flat rock face in which were the three openings, or fissures, six or seven feet in height and about three feet in width. Their floors sloped sharply downward, and their walls were curiously carved into all sorts of fantastic shapes, apparently by the action of the water.

Taking a candle from one of the men, I stepped inside the center opening. A sparkle came from beyond. It was the reflection of the candle flame in a mirror of water near my feet.

Allen, behind me, grunted. "Plumb full of water. No need of snakes to keep them other snakes safe," he said, and stepped back into the cave.

Winstead uncoiled a light lariat from his shoulders, snared a rock in the loop and threw it into the blackness. There was an echoing splash and the line drew tight.

"Boys," he said, "there's twenty-five feet of moistness in them depths below, and how many more feet is uncertain. The total width of this stray limb of river is unknown."

It was too true. There was nothing to do but pack up and get back to camp to think the matter over and decide on our future course.

The morning following, three of us didn't get up to breakfast. We laid in our hammocks and gabbled about Heaven knows what. We had what the Mexicans call "storm fever." It's due to cold, exposure, and the miasma bred of wet and decaying vegetation.

Well, there happened along another Yankee outfit, bound for a concession located not far from ours. In this outfit was a doctor, and he gave me the choice of dying or getting out of the region. I chose the last.

A year later, in Houston, Texas, I was thinking over the possibility of organizing an expedition to visit Painted Rock, when, to my surprise, I ran up against Winstead.

Winstead grinned as he shook my hand.

"I know that you'll ask particulars about that Painted Rock and them snakes," he said. "But they ain't no more."

"What!" I cried.

"Nope. The Sierra Madres is always uneasy in their innards, and a month or so after you left us, they kind of spasmed into our neighborhood, shaking the circumjacence to smithereens."

Recent Railroad Patents.

BY FORREST G. SMITH.

Describing a New Style of Locomotive Frame—New Vestibule Arrangement for Street-Cars—Steam-Heated Running-Board, and a Car-Fender Lowered and Raised by the Motorman.

HEATED RUNNING-BOARD.

Made Hollow So That Ice and Snow Will Not Form On It As Steam Is Blown Through.

A DECIDED improvement over the present form of foot-board for locomotives is shown in patent No. 936,786, October 12, 1909, issued to Albert Krutsinger, of Pasco, Washington. In the present form of foot-board, snow and ice is allowed to collect, and on a long run may accumulate to such an extent as to render it impossible for a trainman to obtain a safe foothold on the board.

While it is true that the snow may be swept from the board, this consumes considerable time, and is not practical when the train is going at a high rate of speed. Even when cleared in this manner, there is a chance of a crust of ice being left on the board, which will render it more dangerous than ever. Mr. Krutsinger contemplates providing a foot-board which will have a hollow base and which will be covered with planking or other suitable covering. Exhaust or live steam is admitted into the hollow portion, so as to heat it to such a degree as to warm the covering and melt any snow which may fall upon it.

A NEW LOCOMOTIVE.

Design of Engine Frame That Will Permit Old Cylinders Removed and Larger Ones Fitted.

A PATENT, No. 936,198, October 5, 1909, has been issued to Samuel M. Vauclain, of Philadelphia, Pennsylvania, and assigned to one of the largest locomotive works in this country, disclosing a novel construction of bed frame for a locomotive.

In the ordinary construction of locomotives, it is, owing to the present method of mounting cylinders, practically an impossibility to substitute for the original cylinders ones of larger diameter, without materially increasing the width of the locomotive. In the patent mentioned, however, there is shown a means for so mounting the cylinders that they may be of practically any size without affecting the width of the locomotive.

The bed frame of the Vauclain locomotive is of composite structure, embodying main and intermediate frame sections, of which the intermediate section is of much less width than the main frame sections. It is upon this intermediate section that the engine cylinders are mounted, and they are in this manner so well positioned within the bounds of the locomotive in general that cylinders may readily be substituted without in any way altering the width of the locomotive.

NEW BRAKE-SHOE HANGER.

Device That Will Prevent the Uneven Application of Air-Brake Surfaces.

IN the ordinary forms of brake-shoe hangers, wear of the parts may cause the shoes to engage the wheels unevenly. In fact, this frequently happens. In patent No. 935,831, October 5, 1909, issued to Walter S. Adams, of Philadelphia, Pennsylvania, there is shown a hanger which will overcome this difficulty, and which has been adopted by one of the largest car-manufacturing firms in the United States.

The ordinary hanger is suspended from a pivot in such manner that the pivot will soon become worn so as to cause the non-aline-

ment of the brake-shoe and wheel, but in the patent mentioned the pivot is so arranged that wear will be automatically taken up.

The pivot disclosed in the patent to Mr. Adams includes the usual pivot bolt which is passed through a head having conical or tapered ends. The hanger arms are suspended from this pivot and support the brake-shoe, and upon the pivot are arranged springs which bear against the upper ends of the arms. These ends are formed with seats to receive the ends of the head, and nuts are threaded upon the ends of the pivot and bear against the springs to hold them firmly against the arms.

As the wear between the arms and the tapered ends of the head increases, it is taken up by the springs automatically, at both ends of the head, so the brake-shoe is at all times in alinement with the wheel, regardless of wear.

NOVEL CAR-FENDER.

Guard That Can Be Lifted As Well As Lowered by the Motorman in the Vestibule.

AN innovation in the line of car-fenders is shown in a patent, No. 935,828, October 5, 1909, issued to Albert J. Thornley, of Pawtucket, Rhode Island. The fender disclosed in this patent is of that type which are hung beneath the front platform of the car back of the main fender, and ordinarily such fenders are supported in raised position by latches which are mounted beneath the platform and may be released so as to drop the fender by means of a foot pedal under the control of the motorman.

After such a fender has been dropped, however, and they frequently drop by accident, they must be returned to normal position by reaching beneath the platform. Very often, when they drop by accident, they will strike some rough place in the roadway and will be destroyed.

The fender covered by the patent mentioned is mounted or hung in substantially the same manner as the ordinary fender, but means is provided, under the control of the motorman, for both raising and lowering it.

A rocker is mounted beneath the car platform and has connection by means of a rod with a crank upon the shaft from which the fender is hung, and mounted in the platform are two foot pedals which rest at their lower ends upon either end of the rocker.

The pivots are so arranged that when one pedal is depressed, the connections will be beyond a dead center and will support the fender in raised position. When the other pedal is depressed, however, the connections move to a position to the other side of the line of dead center and the fender is dropped. As a result, the motorman, without leaving his platform, may raise or lower the fender.

NEW STREET-CAR DOOR.

An Improvement for "Pay-as-You Enter" Cars by Which the Conductor Stays Inside.

A "PAY-AS-YOU-ENTER" car of such construction that the conductor is located within the car is shown in a patent (No. 922,430, May 18, 1909) issued to Henry Howson, of Philadelphia. In the car construction disclosed in the patent there is a space reserved within the body of the car to be occupied by the conductor, and so situated as to divide the entrance to the body into two passageways.

A guard encloses this space and has a swinging extension which divides the entrance side of the platform into two ways, which may be closed by a door consisting of two sections, one arranged within the other. When the door is moved bodily without separating the sections thereof, the exit way is closed, and while the door is in this position one of the sections may be moved independently of the other to close the entrance-way to the car.

The double door is so arranged within one side of the car-body that no appreciable room is taken up, and for this reason more entrance room is had than is possible in the present constructions of such cars wherein the door slides both transversely and longitudinally of the car-body.

TO ANCHOR TIE-PLATES.

Ribs That Bite Into the Upper Surface of the Ties in Order to Prevent Creeping.

CONSIDERABLE trouble has been experienced in properly anchoring tie-plates so that they will not creep, both in the line of track extent and also in the line of extent of the ties upon which they are disposed, and while some of the present forms of tie-plates are provided upon their under-sides with spurs, which are intended to prevent such creeping, they are generally unsatisfactory for the reason that the spurs, being sharp and pointed, will tear through the fiber of the ties and not only creep but will wear out the ties.

A simple construction of tie-plate which will overcome these disadvantages, and which is very cheap to manufacture, is disclosed in a patent (No. 921,724, May 18, 1909) issued to Andrew Morrisson, of Pittsburgh. The tie-plate of this patent has formed upon its under-side and at each side edge, a rib, and also upon its under-side, but at right angles to the side ribs, others which effectually prevent creeping in the direction of track extent, the first-mentioned ribs serving to prevent creeping in the direction of extent of the ties. It will be understood that these ribs bite into the upper surface of the ties upon which the tie-plates are disposed, but that they do not tear the fiber of the tie as do the spurs usually provided.

NEAT UPPER BERTHS.

A New Construction for Sleeping-Cars Which, When Closed, Gives the Effects of Paneling.

A CONSTRUCTION of upper berth for sleeping-cars which is very neat in its appearance when not in use is disclosed in a patent (No. 922,850, May 25, 1909) issued to Edward G. Budd, of Philadelphia. The berth comprises end members, which are pivoted at their inner ends to the side of the car and are curved in the direction of their length, and of side members, which are secured at their ends to the ends of the end members, and in connection with the said end members complete the frame of the berth.

A stout sheet metal panel is secured at its end edges to the under edges of the end members, and at its side edges to the under sides of the side members, and this panel is curved to the same degree as are the end members and presents a plain convex surface when the berth is folded, resembling the ordinary panelling seen in the day coaches, with the exception that it is reversed.

A mattress is arranged upon the concave surface of the panel. This berth is extremely simple in its construction and is not unsightly.

TROLLEY-WHEEL DEVICE.

Wheel in Two Parts, Allowing Pivotal Movement of the Rim at Any Angle.

NUMEROUS devices have been proposed having as their object to provide a trolley-wheel which will not leave the wire in rounding a curve, but such devices have been complicated by the employment of specially constructed harps, embodying swivels, which are liable to get out of order in a short time.

A device for this purpose, which embodies numerous advantages not to be found in similar devices, is shown in patent No. 935,852, October 5, 1909, issued to Albert M. Levering, of Philadelphia, Pennsylvania. In this device, the usual form of harp is made use of, and in it is mounted the ordinary spindle such as supports the present trolley-wheel.

Upon this spindle is mounted a hub, and upon the hub is fitted a rim which is grooved to receive the trolley-wire. This rim is pivoted on the hub so that it may have pivotal movement with respect thereto, and may consequently assume positions at various angles with respect to the hub, although rotating therewith.

In rounding a curve, the rim will assume the proper angle to the hub, and will consequently follow the wire. One of the most noticeable advantages of the device lies in the fact that whether the rim or the hub becomes worn so as to be unfit for use, a corresponding new part may be readily substituted for the worn one without the expense of providing an entire new wheel.

SIMPLE CATTLE-GUARD.

Invention with No Moving Parts, which Will Keep Animals from Track Without Hurting Them.

AN extremely simple form of cattle-guard for railway tracks is disclosed in a patent, No. 932,634, August 31, 1909, issued to Benjamin E. Mosher, of Palestine, Texas. Ordinarily, cattle-guards are constructed with a number of moving parts which have to be constantly kept in repair, or they are constructed with devices which are liable to injure the hoofs of cattle attempting to cross them.

The guard patented by Mr. Mosher is not only devoid of moving parts but is so simple that it can be manufactured at a fraction of the cost of the ordinary guard now in use, in addition to being as efficient. In construction, the guard consists of a number of wooden strips which are substantially V-shaped, and are spiked to the upper faces of the ties at the point to be guarded, being disposed with one of their two broader faces upon the ties.

These strips are covered with sheet-metal plates, and cattle attempting to cross will be unable to secure proper footing owing to the slippery inclined surfaces presented.

THE TELEGRAPHIC TWINS.

BY CROMWELL CHILDE.

How They Ticked Out Their Verbal Sweetness When They Went to Meet Gussie.

GEORGE MATSON, the operator at Mount Savage, had been "listening in." A most promising flirtation was going on over the wire.

"No, sir," the Shelbyville girl was saying, in a series of dainty, quaverless clicks—it was evident how delightfully supple and strong her little wrist must be—"that lumber consigned to William Patchen's Brothers hasn't been heard of yet. I am so sorry you've been put to all this trouble."

"It's no trouble at all," came from Hawk's Nest. "The man that wins in this world is the man that has a never-ending grasp on detail, who regards no effort as too great, no hours spent too long. That's a man's place."

"There are so many young men—" Shelbyville murmured.

"Yes, careless, faithless, thinking only of their own selfish pleasures. Do you know that beautiful old poem, *Labore est orare?* Got that? It's Latin. It means, 'To work is to worship.' An old monk sings it. Isn't that a grand idea?"

"A man should be strong," the wire clicked back.

"Yes, his labor is worship. Man is his own star, you know. He rises on stepping-stones of his dead self to higher things."

"It's just too lovely to find men with ambition." You could almost hear her purring and see her big, appreciative eyes.

"Ambition? That's made by a woman. A man never feels it until a woman comes into his life. It may be always there, though, waiting for her to come, an undercurrent that he does not understand, a force behind all his work."

"I like to hear a man talk like that. They're such beautiful ideas! Men—most men—talk so silly nowadays, and think of nothing but baseball and clothes and dances and 'shows.' You must have read lots and lots."

It had begun over a shipment of lumber that somewhere between its starting-point, Hawk's Nest—to George's east—and Shelbyville—far to his west—had mysteriously disappeared. Ordinarily, the operator at Hawk's Nest, having made the first inquiries in vain, would naturally have notified the general freight-agent, and let him do the tracing.

But the Hawk's Nest operator had violated all precedents, and had kept up the inquiries himself. Why? The operator at Shelbyville was a girl. George did not wonder that the chap at Hawk's Nest was fascinated, for when she sent it was the most musical, beautiful Morse.

He, George, could almost shut his eyes and dream about it. To him the clear cadence of her dots and dashes was like perfect music to a musician. And the pretty way she could express herself when the villainous Hawk's Nest man drew her into general conversation over the line—as he cunningly did very often—was maddening to a man altogether out of it, who could do nothing but wretchedly eavesdrop by casually throwing his key open at the proper time.

The flirtation was getting along altogether too well for George. The man and girl on either side of him, a hun-

dred or so miles each way, though he could tell from their talk that they had never laid eyes on each other, were rapidly becoming as thick as two peas in a pod.

George had wild notions of getting her on the wire himself, and he racked his brains for a good excuse. It would be fatal to call her for no reason at all. And Mount Savage was not having a single occasion to get the station at Shelbyville on any pretext.

The day before, when No. 6 stopped at the station, and Tom Judson, its conductor, came up to the window for orders, he had waylaid him.

"Tom, tell me about that girl at Shelbyville. What does she look like?"

"A peach," said Tom sententiously. "A peach! Snappiest little girl on the road. Black hair, nose that tips up in an aggravatin' way, bully little hands and feet—oh, I can't describe her; but she'd hit you, George!

"Say," he went on, "it's funny, come to think of it, how that girl's gettin' inquired about. Only a day or so ago Alley, who takes my run east, told me a feller down the line was askin' 'bout her—feller at—lemme see—Hawk's Nest, that's the place.

"'Cordin' to Alley, he was mighty anxious, and Alley got all the points from me he could. Flossy sort of chap, that Hawk's Nest feller, Alley tells me. Got a lot o' poetry and story-books, and reads 'em as you and I do the newspapers. Well, so long, George! Name's Gussie, if you want to know — Gussie Sparks."

All this was very disquieting. But George had gotten a step farther—not that it did him any especial good. He had identified the man. Who this telegraphic rival under such extraordinary circumstances was came to him an hour after Tom Judson had given him particulars about the girl.

The Hawk's Nest man had Gussie again on the wire, with another question about the lumber shipment. As he flashed two hundred miles a neatly turned sentiment that made the listener writhe, George remembered.

"Gee whiz!" he cried. "So it's you, Mister Man? Gosh! That codger's Frank Benton, who, they say, sends just like me. Some folk's figure you can't tell us apart when you're at the other end of a wire. It isn't once in a thousand years that you'd strike that. Some funny fellows down in the Louisville office speak of us as 'the twins.'"

Now he knew it was Frank Benton, the man he had been told about a hundred times, George's desire to see him became extreme. What manner of chap telegraphically was his double, and yet had such a wonderful way with a girl?

A misty yet enduring picture of just how stunning the Shelbyville girl must be stuck in his mind. Whee!

In despair, George turned to the woman's page of the Louisville *Sunday Courier*. That might give him some light on how to handle a girl like this. Hawk's Nest, it was evident, carried too many guns for him. Even if one could perform the impossible feat of getting him out of the road telegraphically, what sort of a figure would he, George, cut in his stead on the wire?

"Bernice Astorgilt," who gave expert advice every afternoon as to affairs of the heart, might have some suggestions. At all events, it would do no harm to read her "dope."

But the "Lovers' and Etiquette Column" gave no help at all. Nor did the battered copy of Shakespeare, borrowed at the house of McGill, the station-agent, that George took a whirl over that afternoon. If anything ever looked hopeless, it was this.

Meantime, he asked another conductor and several brakemen to tell more about Gussie, and each account that came to him was additionally flowery, all agreeing, however, that she was decidedly stand-offish, though pleasant.

"It's this way," explained Buddy Bruerton, the "dude" brakeman of the division, who was acknowledged to have the best eye for girls anywhere about; "she isn't turning one of us down; she's nice to every one, and has a little smile for all of us. But *we* don't figure at all. She's got some one in her mind that counts us all out. Gee! An' she's that kind of a girl it hurts to be six feet away from."

For twenty-four hours George sternly tried to stop "listening in," and thus avoid the torture to his nerves of hearing

such pretty speeches as *he* could never think of poured into the ears of the girl at Shelbyville.

It was especially maddening to consider that these might just as well have been ticked out by him—if he could only have thought of them. Miss Gussie

"I told the G. F. A.'s operator how hard you had been working on it," she continued, "what a splendid man there was at Hawk's Nest."

And then she had gone on to say how blue she felt, what a stupid old place Shelbyville was, with never any fun

"OH, I CAN'T DESCRIBE HER; BUT SHE'D HIT YOU, GEORGE!"

would never have known the difference. Yet it was far worse to close the key and know that Frank Benton had the ear of the pretty girl again and was making strides that were wonders.

"Into each life some rain must fall." The wires had been quiet an hour, and the silence was at length broken by Shelbyville, who wanted to tell Hawk's Nest that William Patchen's Brothers were getting very mad indeed about the delay of the lumber, and all that morning had been stirring up the general freight-agent.

there, how cross they had been at home that morning, how the dressmaker hadn't finished her new dress, as she had promised.

"Of course, a big, brave man doesn't worry about silly little things like those," she half moaned over the wire, "but a girl does. It's the awful round of petty things that make it so tiresome. And just think, out in the world people are doing big, splendid things, and there's so much to do and see."

Even a hundred miles away, you could

fairly see Gussie almost crying. And yet George Matson had to sit calmly at his table and hear Frank Benton talking like a double of himself on the wire, a hundred miles farther off than he was, and comforting her.

As Hawk's Nest dripped oil and honey over the wire to Gussie, with a command of words and thoughts that were simply beautiful, George Matson bitterly regretted that up to this time he had made a specialty of the sporting pages only. What were you to do when you were up against such talk as this?

"Some days, dear girl, must be dark and dreary," Hawk's Nest said. "There cannot be roses or joys without thorns. Always remember that endurance is the crowning quality, and patience the passion of great hearts. The poetry of earth is never dead."

"I wish I could be brave and strong like you, and see it just your way," she answered him back. "You make me feel so much better already. Men have so much strength. We poor women are so helpless."

"Helpless? Never. Have you never heard how a woman floats upon the river of a man's thoughts? She is behind all. Why is it when duty whispers, 'Thou must,' the youth replies, 'I can'?"

"You mean— Oh, you don't mean that."

"One of my inmost thoughts is: When she had passed, it seemed like the ceasing of exquisite music."

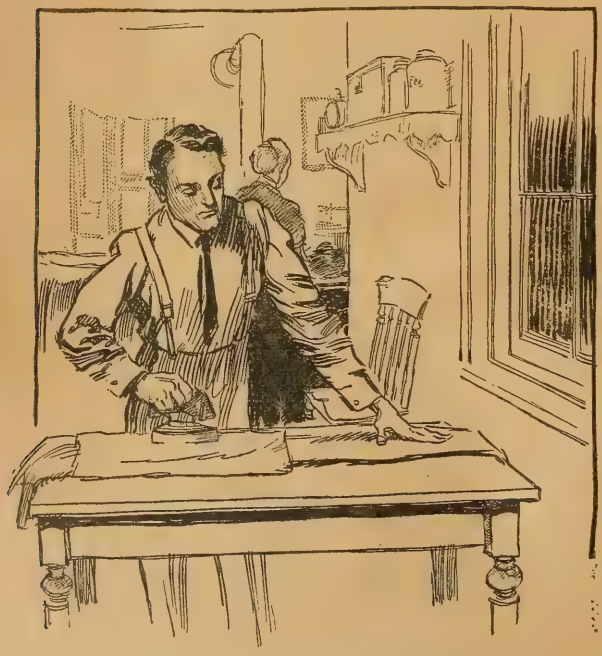
"O—h, how do you ever think of lovely things like that? Do men really believe such things about girls?"

"Don't ask me about all men. I can only say for myself. But there are a few who can touch the magic string which is real life. And you're not alone at any time, dear—don't fear that. Do you know what I am thinking always? What the great Milton has so wonderfully said of a lovely woman, 'A thousand liveried angels lacquer her.'"

Yes, Hawk's Nest said "lacquer."

It was too much. George shut the key. He seized the paper that the mail had just brought, and applied himself with great assiduity to the standing of the National League.

He gloated over the latest triumph of the Pirates, and set himself to a sum of complicated figuring that would prove his own theories right. But the canker-worm was in his very soul.



WITH CAREFUL FORETHOUGHT, HE HAD IRONED HIS TROUSERS.

He would forget her. Probably Buddy, Tom Judson, and the other fellows were simply talking wild. The chances were, anyway, that she was an ex-schoolma'am of close to thirty-five. Some little railroad business came along, and he commenced to be more cheerful. But—

That was the voice of his rival over the line again, and what was he saying? Great Scott! Each ear became at once automatically primed.

"I've got the leave, sweetheart. Yes, I'm going to call you that. Nobody else's got the right, and I'm going to take it. I'll be in Louisville at two-thirty tomorrow afternoon on No. 7. You can get away, can't you?"

"Oh, you're awfully quick, and—I don't know—ye-e-s, I can. There's a girl

here who'll take my key. But how'll I know you? We've never seen each other. I ought not—"

"Dear, do you think I'd ask you to do anything that wasn't right? I've thought it all out. Here's what we'll do. You know those little toy telegraphic sounders that cost ten cents? As soon as I get to Louisville, I'll get one of those. Then I'll go to the upper end of the waiting-room, and stand there.

"You'll know me because you'll hear my message in Morse. I'll send a little wireless wire to you over and over again. Nobody there'll know what it means. But you will. You'll hear your Frankie's touch. Wouldn't you know that, Gussie, dearest?"

"Yes—yes, I would. Oh, Frank, it's the sweetest, most romantic idea! How *did* you ever think of it? Out of all the people in that waiting-room only your little girl'll know *some one's* talking to her. It's perfectly plush. How do you send a k— over this old wire? Oh, I mustn't!"

She flashed a telegraphic good-by to him, and left—to her infinite astonishment, if she could have known—a young man at the operator's table at Mount Savage, whose face was fairly wreathed in smiles. For a great big, brilliant idea had struck him. A series of long, jubilant whistles came from his lips.

"Say, has a long-lost aunt left you money, George? Gee! You're frisky! What's up?"

McGill, the station-agent, having lit his pipe and made himself comfortable on the platform, surveyed his young friend in astonishment.

"You've gotten over the indigestion you had for a couple of days. 'Twas a grouch you had, for sure. Glad you're O. K. again. Got a good tip?"

"Mac, me to Louisville on No. 7 tomorrow, if you'll help me out? Back the day after. Is it a go?"

The Scotchman was an obliging man. Besides, George had trained his youngster, Sandy Mac, to be, at the age of eleven, the crack kid ball-player of the region, a circumstance that gave the father infinite reflected glory. Cunningly, George added:

"Going to get Sandy a new bat while I was down there, if I could get off."

The matter was then and there settled. "Sure, boy," said McGill. "I'll tend to things."

The Shelbyville office closed at seven; and the Hawk's Nest man, to get into Louisville at two-thirty the next day, would be starting on his long journey across the West Virginia mountains by a little after ten. Though the telegraphic ear of Mount Savage was attuned, no more affectionate messages passed down the line until six-thirty, when, hastily, Shelbyville was told, "Remember. Tomorrow."

At so close to seven that Gussie must have been putting on her hat, and all but gliding out of the door, George grasped his key firmly. This is the message that he sent in the best style and with every characteristic of his telegraphic twin:

> Gussie—You know who's talking. Glad I caught you. Make that the lower end of the waiting-room, not the upper. Tell you why to-morrow. Angels ever guard thee, fair.

George had been thinking over that ending for two hours.

"I'll bet it made a hit," he said, as he climbed up the hill to McGill's to supper. "Now, I've got you, Frankie. Wait till I get in that station. Wow!"

More than one very pretty girl was in the waiting-room of the C. and O. station at Louisville the next afternoon at half past two o'clock on the arrival of the train from the East.

Miss Gussie Sparks was just a trifle worried. Confident of her own personal attractions and the fit of the new dress on which the dressmaker, under tearful persuasion, had put the last touches at noon, it seemed, as she looked about her, that there was altogether too much girl competition for the eyes of an impressionable man who could quote poetry the way her Hawk's Nest admirer did.

Yet these other girls did not know the romantic message she was to get. Pshaw! She was safe.

It took about two minutes for George to get the toy sounder; and then he was back in the waiting-room, making his way down to the lower end. With careful forethought, on the night previous he had ironed his trousers; and the

creases, made sharper by being between the mattresses while he slept, were things of beauty.

A hasty glance assured him that he was as spruce as any young fellow there. He plucked up heart more than ever. Slipping his hand into the pocket where the sender was, he glanced over the waiting crowd.

Could that be she, that girl in blue? Or, was it the one in brown?

Stay! Over here was a little beauty in gray—just the saucy, petite type Tom Judson had described.

But, for all that, it might be the one in red, whose eyes were as black as coals and fairly snapped. And there were three or four more that he was not at all sure of. All were evidently waiting—each might prove the girl of the wire.

He gripped the sounder. And then, like a flash, the horrible thought came over him: *What was he to say in Morse?*

His telegraphic touch was Hawk's Nest's to perfection; but how could he make up *his* language—how get off the flossy stuff Gussie had been drinking in eagerly for days?

He hadn't the slightest idea what to begin with. His mind was a wild blank. The girl, whoever it was, that was standing within a few feet of him, would see through the telegraphic forgery in an instant.

But there was not a second to waste. Something had to be done. George had saved many a ball-game by action. Three men on bases and two out. Look out! Let it go! Play ball!

He had seen his salvation. The newsstand bore a sign, "Conversation Candy." In no time at all he was smiling into the eyes of the much-marceled young person in charge and saying to her in an undertone:

"Half a pound of the talk-fest candy, sister."

She understood. Never was a sale more quickly made. George, with a happy flash of inspiration, had remembered those lozenges with their splendid red mottoes. Many a time they had made a party bright and joyous for him. You didn't have to think when you talked to a girl. The mottoes did that for you.

He was much easier in mind. His hand went into the bag in his pocket and

"THIS GENTLEMAN,"—INDICATING

brought out a sugar disk. Surreptitiously he read it behind his fingers and plumped it into his mouth. Another and another.

Click! And a succession of them. He was strolling nonchalantly about.

"Are you ready, dearest?" "Ever thine!" "Darling, do you love me?" "I am happy when near you."

They did not sound as well as he had thought they would. There was something lacking. Whoever, wherever, Gussie was, she was giving no sign.

He dug his hand into the bag. He had almost ticked off the motto on the pink heart that came uppermost before he realized what it was:

"Do you kiss boys?"

Almost in a panic, he reached for another. "Come, love, come," it read. There, that was better. He put that on the "wire;" and the next—for that, too, seemed good—"Just one smile, love."

He fairly shuddered at what he drew out next, "Cut your stick," and "Draw it mild." These he dropped hastily on

THE UNHAPPY GEORGE,—"IS A LEMON AT POETRY."

the floor and ground under the heel of his shoe.

He might have fled in despair had not a memory of a verse flashed upon him just at that moment. It came in the very nick of time. Ah, ha! He had it now!

Again a rush of Morse in the prosaic station. Anybody that could have "read" it would have known that George was saying:

"Ah, cruel maid, why did thy charms so keenly pierce my heart?"

O-ho! And he remembered he'd sent a valentine once. Yes; ah, yes, here it was. Now, Gussie, look out!

I wish I were a china cup, from which
you drink your tea,
For then I'd know at every sup you'd
give a kiss to me.

Let Hawk's Nest do all the clicking he pleased at the upper end of the station. Here was the boy who was delivering the goods. Mighty funny, though, Gussie wasn't making herself known.

Which was she? He didn't dare do a thing but click. The girl in blue was slipping away. She had just been joined by a fine-looking young fellow. The beauty in brown was in the arms of an admiring and welcoming feminine group, who were hugging her and talking vociferously as they commenced to carry her off. Another and another girl disappeared. The black-eyed one in red, after looking over everybody, finally walked out.

There remained, among possibilities, only the girl in gray. She was pacing up and down, a little frown of disappointment on her pretty face, her head perked up in the most catchy manner. She was surely waiting for somebody—or something.

George's pulse commenced to beat furiously. Here was a dream! Why couldn't he speak?

But, no. She might have been a thousand miles away, for all the attention she was paying. Calmly oblivious, she walked up and down. Was his "conversation" absolutely a frost? She must

know it was he. Seeing him, hearing him, had she turned him down? Had she really flagged him?

Horrors! He became more and more rattled. His clicking stopped. Then he saw that would never do. Of a sudden, his sounder seemed to work of itself. Without his being aware, it merrily clicked out:

"Say, can't we go to the ball-game this afternoon?"

He stopped, terrified. The faintest suspicion of a smile came upon the beauty's face. But she made no sign.

Into his pockets, George dug frantically once more: "My beloved star! Are you happy?"

A great effort now: "When stars are in the quiet skies the most I pine for thee."

The lady of his love turned and slowly walked up the room. As well as his agitation would let him, George followed her. He could think of little to say. All the phrases that were left on the candy hearts and diamonds were such stray ones as, "Certainly, darling," and "May I see you home?"

They were more than half-way up the waiting-room. Faintly, at first, louder and louder as they kept on, came to the ear a procession of telegraphic clicks:

"Oh, my love; my dear love. And o'er the hills and far away—don't you remember, dear—and straight into the never-to-be-forgotten dying day the happy princess followed him. Where are you, dear?"

The face of the girl in gray lighted up. She took one step, and then another toward a slight, dreamy young man, who was looking anxiously about. At once the *tick-tick-tick* came to an end.

"Gussie!" the man exclaimed — but not in Morse.

"Not at all," cried another girl, in a stunning purple gown, who appeared suddenly from behind a telephone-booth. "I'm Gussie. *She's* my friend. So this is Frank! Jennie, who's this other gentleman?"

"I don't know," said the girl in gray. "I'm all mixed up. Are there two operators at Hawk's Nest?

"You told me he said the most beautiful things over the wire. This gentleman,"—indicating the unhappy George,—"is a lemon at poetry. I never heard such awful truck." She glanced coquettishly up into the eyes of the Mount Savage operator, and added: "I haven't any use at all for poetry myself."

"How about that ball-game?" asked George.

LOUNGING LIBRARIES ON WHEELS.

A COMPLETE library for the traveling people—something distinctively new in railroad service, has been adopted by the Chicago, Burlington & Quincy Railroad, particularly for its fast trains between Chicago and Denver.

The Burlington has equipped four new cars with the "Five-Foot Library," selected by Dr. Charles W. Eliot, president emeritus of Harvard University, and in addition will supply other works intended to give selection of the broadest possible scope to the amount of space available.

The new cars are unique in many ways, embodying the idea of a lounging club on wheels. One end of the car is devoted to a sort of sun parlor arrangement, which is regarded as a big improvement on the old-style observation attachment. This section is entirely enclosed in glass fitted in bronze window sashes and bronze doors. The windows are so adjusted to the sash, which is parted in the middle, that they can be lowered and raised to suit the atmospheric conditions.

When the weather permits, this part of the coach may be used in much the same way as the observation platform. In weather that is less favorable, the windows may be adjusted so as to entirely eliminate the dust feature.

The cars are seventy-eight feet in length. They are split up into a buffet smoking-room, seating nineteen passengers, a writing-room, with two desks and a ladies' parlor fitted with twenty-two chairs and a couch accommodating three.

The sun-parlor feature of the car, on bright days, promises to be the most attractive innovation. Here the passengers may bask in the sunshine to their hearts' delight or, shaded, read any of the books supplied by the Burlington Library. The cars were installed on the Burlington's Chicago-Denver trains with the recent inauguration of the new speed schedule.

Railroad and Commuters in Battle of Jokes.

BY GEORGE JEAN NATHAN.

IT is estimated that over one million people commute daily between New York City and the great stretches of adjacent country where they make their homes. One of the largest suburban services is operated by the Erie Railroad, which, several years ago, became the butt for all sorts of jokes. The commuters started them, and the vaudeville performers and newspapers took them up until the Erie became a byword for all the ancient puns and hoary-headed jokes since the ark. Then the worm turned. It was a lively warfare while it lasted.

President Underwood, of the Erie, After Listening Patiently for Years to the Jokes On His Road, Turns Them On the Public in the Shape of a Book.

SEATED around a luncheon-table in a down-town New York restaurant were several men whose outburst of laughter made the diners at the tables close by regret that they had not been privileged to hear the quip that had caused the merriment.

The luncheon-party in question was made up of F. D. Underwood, president of the Erie Railroad, and two of his close friends. The latter gentlemen were regular commuters over the road of which Mr. Underwood is the chief executive, and the conversation had turned to the jokes that were being told all over the country at the expense of the rural service of the Erie.

"If it were not for the Erie," said one of the men to Mr. Underwood, "half of the vaudeville performers in this country would be looking for jobs. A vaudeville act without a funny remark about your railroad would be like home without mother."

"Yes," put in the second diner laughingly, "half the pleasure we commuters get out of life consists in springing jokes on the service of the road during our trips to and from the city."

Mr. Underwood thought a moment, and slapped the table with his hand. "Right!" he exclaimed. "And now my plan is made. I am going to make the joke-bread you have cast upon the waters come back to you. I am going to get even with the commuters."

"How in the world are you going to do that?" asked the others.

"Wait, look, and listen," replied the chief executive.

How Mr. Underwood, aided by his associates, succeeded in turning the multitudinous array of Erie jokes on the commuters, and how, by turning the tables on the latter, he succeeded in putting almost a full stop to the ubiquitous puns and sarcastic funnyisms through making the commuters realize that the joke was on them, has been well appreciated ere this by the suburban travelers.

Mr. Underwood's plan, in brief, was this: He collected every good joke that had been told at the expense of the

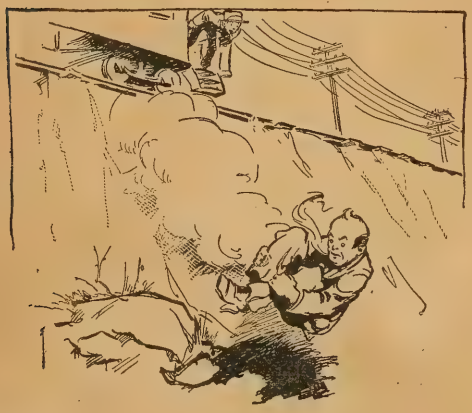
Erie's suburban service. These jokes were inserted in the time-tables of the railroad, and in such positions that the commuter who was looking up the trains could not fail to see them.

New jokes were to be inserted as new batches of time-tables were issued, and not a joke was to be allowed to go unnoticed. For more than a year and a half this order was put into execution, and only recently, after several thousand commuters had written to the Erie company that the laugh was on them, was the great joke campaign called off.

To demonstrate the extent to which the "campaign" was carried, and to give an idea of the huge variety of jokes that were turned against the commuters by making the latter read them regularly in the time schedules, the following collection of the best of these jests was made.

Included in the list, the Erie officials assure us, are all of the very finest jokes that have been cracked at their expense. And, assuredly, the collection is a unique one, to say the least.

The jokes are reprinted herewith just as they appeared in the time-tables:



MAN FALLING MIGHT BEAT ERIE.

Recently an old man *en route* to Binghamton, while passing from one coach to another, fell from the train and rolled down a steep embankment, but was not seriously hurt. One of the train crew asked him what he thought of as he was falling.

"Well," he said, "Oi don't want to hurrt yer feelings, sor; but whin I was rolling down the bank, thinks Oi, 'Begorry, if Oi kin kape up this gait a thrifle longer, I'll be in Binghamton ahead of the train.'"

MORE INFORMATION.

On a certain section of Erie Railroad, track repairs were being made and the cars vibrated considerably. A passenger requested information from the conductor as to the cause, and it was given. In a few moments the rocking motion subsided, and upon further inquiry of the conductor, the passenger learned "the train is now off the track."

"WHO BUILT THE ERIE?"

A motherly old lady, anxious to reach her destination, was informed that the train would be somewhat delayed, but she concluded to make the best of it. While discussing the probable time of arrival at her station, she asked the conductor, "Who built the Erie Railroad?" As he did not know she volunteered the information that the Lord must have built it, for does not the Scripture say: "And God made the beasts of the earth . . . and everything that creepeth on the earth. —Genesis i.25."

TO DISCONTINUE RETURN TICKETS.

Nelson.—"It is intimated that the Erie is going to discontinue the sale of return tickets from New York to stations on the New Jersey and New York Railroad."

MacDougal.—"Why?"

Nelson.—"Because their lease of that line will expire in ninety-nine years."

WORTH THE FARE.

It was during a very tedious ride on the "Erie," and the passengers, tired, dirty, and thirsty, all berated the company with the exception of one man. His fellow passengers commented on this, and asked him why he did not denounce the company, too.

"It would be hardly fair," he replied, "as I am traveling on a pass; but, if they don't do better pretty soon, blame me if I don't go out and buy a ticket and join you."

PUT THE COWCATCHER BEHIND.

During the floods a few years ago, many bad washouts occurred on the Erie, and the trains were run at a low rate of speed. When the conductor was punching the ticket of a passenger he remarked:

"Does this railroad company allow passengers to give it advice, if they do so in a respectful manner?"

The conductor replied that he guessed so.

"Well, then, it occurred to me that it would be well to detach the cowcatcher from the front of the engine and hitch it to the rear of the train; for, you see, we are not liable to overtake a cow, and what's to prevent a cow from strolling into this car and biting a passenger?"

It is an old joke. It originated with Mark Twain, back in the '80's, but even the conductor laughed.

TIME-TABLES.

At all the shows ridicule is the big hit. The minstrel middleman asks the endman, "Where do you get your funny jokes?"

Endman replies: "Comparing the running time with the time-tables of the Erie Railroad."

BOY RUNNING BEATS ERIE TRAIN.

An Upper Montclair newsboy beat an Erie passenger-train from Pompton to Pompton Junction.

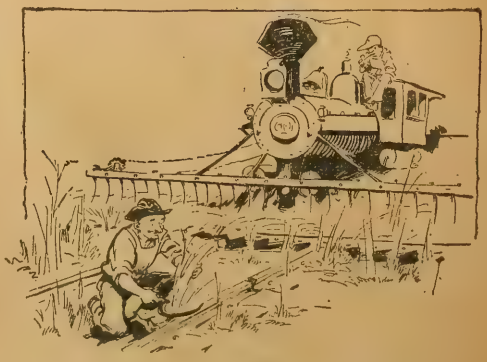
Returning from an excursion, he got off the train at Pompton to purchase some peanuts, and the train started before he had completed his purchase. Nothing daunted, he started after the train, crossing lots and bridges, and when the train stopped for about a minute at Pompton Junction, the swift-footed newsboy, out of breath, swung aboard and rejoined his astonished companions, who believed that he had been left behind for the night.

EDUCATION.

An ordinarily bright schoolboy from an Erie town, while reciting his lessons one day, did so in a very hesitating and slow manner. The teacher, when chiding him for his slowness, suggested that if riding on the Erie had such an effect, he had better commute on some other line.

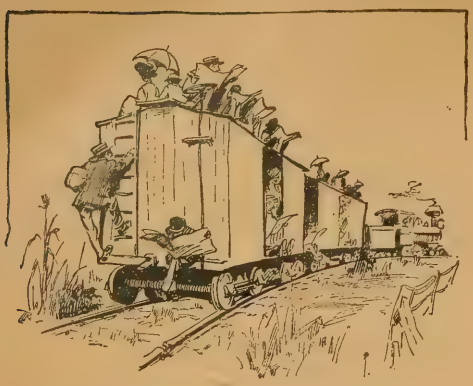
IN VAUDEVILLE.

Two vaudeville actors in their work discuss the many medals which one of them has upon his breast as decorations. One, much larger and more showy than the rest, was given to him, he said, for specific bravery. When asked what particular act entitled him to such distinction, he replied: "I am a hero; I got that for riding between Buffalo and New York on the Erie."



HEARD AT THE POST-OFFICE.

"Well, spring is here at last. I noticed this morning that the Erie has replaced the snow-plows on the cowcatchers with mowing-machines."



SUBURBAN SERVICE.

A shipper, in conversation with a representative of a foreign line, stated that the Erie Railroad had discontinued shipments of grain because it had been found necessary to take off their two box cars and use them for suburban passenger service.

DEFINITION.

A passenger just returned from a trip over the Erie, called on the ticket-agent who had sold him the ticket, and stated that he had a model trip.

The next day the agent bethought himself to look up the word "model" in the dictionary, and this was what he found:

MODEL:—A small imitation of the real thing.

A SAD CASE.

"This is a sad case," said the attendant at an insane asylum, pausing before a padded cell. "There is no hope for the patient whatever."

"What's his trouble?" asked the visitor.

"He thinks he understands an Erie time-table."

BASEBALL.

At a recent game of baseball between two National League clubs at the Polo Grounds, one of the players made an attempt to score by sliding to home-plate, but arrived too late. While brushing the dust and dirt from his clothes, a "rooter" in the "bleachers" exclaimed:

"Serves him right; he looks as if he came in on the Erie."

ANOTHER ON THE ERIE.

It is said the Erie Railroad stopped the transportation of corpses between York and Buffalo. Reason: Fear that they will not be able to get them there in time for the resurrection.

A LIMERICK.

A commuter who rode on the Erie
Grew daily more doleful and dreary.
Quoth he: "There's no fable
That beats this time-table,
Trains run here as though they were beery."

This limerick, incidentally, was the prize-winner in the New York *Evening World's* prize limerick competition.

PROBLEM.

If it takes five days for the Erie Railroad to transport an egg thirty miles, as testified in a traffic investigation conducted in Rochester recently, state approximate age at time of frying for a five-cent sandwich of an egg laid by a Middle Western hen, stored in Chicago for some months and then shipped to the Eastern market by Erie.

HALF FARE.

A patriarch who presented a half ticket for a ride between Suffern and Jersey City, was informed that he must pay full fare. He replied: "When I purchased that ticket before boarding this train I was entitled to the half-fare rate."

A TOOTHACHE STORY.

A passenger on an Erie train with toothache asked the conductor if there was a dentist aboard who could give him relief, and incidentally he showed him the cause of his trouble. The conductor, astonished, asked why he hadn't seen a dentist before taking the train. He replied that his teeth were all sound when he left Chicago.

NOT THIS COMMUTER.

There once lived a commuter who refused to roast the train service between his town and New York—but he didn't live on the Erie.

The following set of verses, sent in to the railroad by a sarcastic commuter, was reprinted under the caption, "On the Poor Old Erie."

I have ridden on the trolley,
I have ridden on the ice,
I have ridden on the rollers,
And bumped me once or twice.
I have ridden in the Subway,
I have ridden on the "L,"
I have ridden on the Erie,
And have ridden very well.

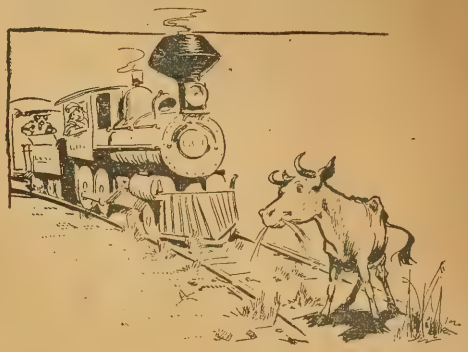
I have ridden in an auto,
I have ridden in a boat,
I have ridden on a mule,
But I never "rode the goat."
I have ridden on a hand-car,
I have ridden on a truck,
But always on the Erie
Had the very best of luck.

I have ridden on a camel,
I have ridden on an ass,
I have ridden on a ticket,
I have ridden on a pass,
I have ridden in a Pullman,
I have ridden in a freight,
I have ridden on the Erie,
And never once was late.

ERIE IMPROVEMENTS.

Now, that the Erie Railroad Company has rented $150,000-a-year floor space in the McAdoo tunnel buildings, it has "'been an' done an' gone" painted its freight-sheds and ferry-houses a dark color, and we no longer see the familiar dirty-yellow that illuminated the foot of Chambers Street so long. President Underwood regards the new shade as more "sootable" to things across the river, where dense clouds of smoke still obscure the scenery, fill the eyes of long-suffering commuters, and befoul pretty villages. No wonder the Erie poet sings:

"The poor commuters howl and cuss
Upon the road bituminous."



REQUESTING INFORMATION.

When an Erie train stopped rather abruptly between two stations, a passenger asked the conductor the cause. He replied: "There is a cow on the track," and passed on. The train proceeded, and within fifteen minutes stopped again; the passenger asked: "What are you stopping for now?" The conductor replied: "We've caught up with the cow again."

A COMMUTER'S COMMUNINGS.

It's a wise child who knows his own father—especially when father has bought a home on the Erie.

Together with these jeers and jokes and verses, hundreds of others of a like character were printed in the time-tables, which, in a few months after the joke campaign was begun, became known as the Erie Joke Books. The extent to which this characterization went is made known in the following quotation from one of the schedules:

"While looking for information recently in connection with the running of trains for certain shipments, a patron was referred to the superintendent of transportation for a set of working

tables. When making application for them in writing, he requested that 'Erie Joke Book No. 2' be sent to him."

Many of the letters that were received at the Erie offices from commuters, after the joke campaign was well under way, were quite as amusing as were the jokes that had been turned on them.

One commuter wrote: "The jokes are worse than the train service. Please discontinue one or the other."

Another wrote: "I will never say another mean thing about the Erie if you will only stop those awful jokes. I can bear rough travel better than be compelled to hear, or read, the same funny story twice."

Still another wrote: "I will agree to quit kicking if you will agree to stop printing and reprinting that weird array of old jokes."

But the favorable outcome of the joke campaign—favorable to the railroad—was best illustrated by a letter from a commuter in Tenafly, New Jersey.

"Your time-tables," read the letter, "have had the effect of a sort of Keeley cure on us Tenaflyers. If you will stop dosing us with our own jokes, we promise you to henceforth abstain from all forms of alcoholic Erie jests."

LARGE SALARY TOO SMALL.

He Could Make Both Ends Meet on $40 a Month, but with $1,800 a Year He was Always in Debt.

WHEN A. B. Stickney, president of the Chicago and Great Western Railroad, was owner of a small railroad in the West, he had a vacancy as station-agent, which was worth eighty dollars a month. Looking around for a suitable man to take the place, he selected Tom Jones, a youngster who was getting forty dollars a month on another railroad for a similar position.

Jones was a bright young man, and he jumped at the chance to double his salary. After a time, his work made such a good impression on his new employer that he was taken into the office of the president and his salary was raised to one hundred dollars a month. He "made good" in his new position, and he was raised again to one thousand five hundred dollars.

Mr. Stickney began to notice that Jones received callers in the office, who sometimes stood talking for a long time. One day, after such a visitor had gone, Mr. Stickney said: "Tom, who was that man?"

Jones was evidently worried. A careworn look settled on his countenance. "That man," he said, "was trying to collect a bill from me."

"How much do you owe?" asked his boss.

"I don't know," replied Jones.

"Don't you get enough salary to live on?"

"Well, I don't know how it is," was the answer, "but when I got forty dollars a month I was able to live and pay my bills. Now I can't make ends meet."

"Find out how much you owe," was Mr. Stickney's rejoinder, "and let me know what it is."

Jones presented to Mr. Stickney the next day an itemized statement showing that he owed $150. His employer presented him with a check for the amount. "There," he said, "pay up, and your increased peace of mind ought to make you that much more valuable to the railroad. I shall increase your pay to one thousand eight hundred dollars. Do you think you can live on that?"

"Oh, yes, I can do that, all right," replied Jones.

Soon after that Mr. Stickney sold the road, he and Jones parted company, and he forgot the man whom he had boosted along into a good position. Ten or fifteen years later he was in the Canadian Northwest with a party of friends.

At a small station where his train stopped he saw a smiling, gray-haired man who looked familiar. They looked at each other, then Mr. Stickney put out his hand.

"Hello, Jones; is that you? What are you doing here?" he asked.

"Station-agent," replied Jones.

"How much?" queried the railroad president.

"Fifty dollars."

"Can you live and pay your bills?"

"Yes, getting along bully," replied the man who could not make ends meet on one thousand five hundred dollars a year. Then they both laughed.

THE SPIDER OF PALERMO.

BY EDWARD BEDINGER MITCHELL,

Author of "An American Knight Errant," "The Yellow Rose," Etc.

Several People Show Their Hands and Some Go Into the Discard.

SYNOPSIS OF PREVIOUS CHAPTERS.

STEPHEN PAGET, a retired newspaper man, and his friend Marshfield, are attracted by the sight of a beautiful girl in a poor building opposite Paget's apartments. A few minutes later a middle-aged woman in the street below is heard to scream hysterically, and on Paget rushing down to find out the reason, she says she has seen the evil one, indicating as the place the room in which the two men have just seen the girl. Paget escorts the woman to her store in the basement of he cheap house, where he learns that her name is Rosa, and that she and the girl, Maria Bigontina, live in the room above. Some days later, Paget finds the girl in a park, homeless. Rosa has disappeared and Maria's brother is also lost. Paget arranges for her to stay at the Walton until her people can be found. He goes to interview the landlord, who has turned her out, and in her room has an adventure with several Italian cutthroats. Dining with Maria, he is warned by a Hungarian orchestra leader not to take the first cab or walk when going home.

The cab they do take breaks down, and in the confusion they are actually led into taking the first cab. The driver tries to abduct them, but Paget thrashes him, and after seeing Maria to the Walton he changes coats with the driver and goes to the place the latter was instructed to drive them to. He sees his enemy, but fails to learn anything. Next morning, with Maria, he dodges the spies and carries the girl to the seclusion of his cousin's home.

As Paget is going home he is met by Marshfield, who insists that he go to his house to dinner. A scheme is on foot through which the elder Marshfield may purchase valuable mining property in Abyssinia, and it is practically settled that Paget and young Marshfield shall go to look things over. Paget sees one of the guests at the dinner in conversation with one of the Italians of his previous adventure, and later, he and Marshfield overhear a conference of the cutthroats, in which it is planned to get possession of Maria.

Maria sees Paget with Signor Rocca, her enemy, and thinks he has betrayed her. Rocca invites Stephen and young Marshfield to lunch, and afterward asks Stephen to go and see some Abyssinian specimens at his warehouse. It is the same address as they had attempted to lure Paget and Maria to before.

Paget declines, and when Rocca attempts to trap him he proves too smart, and instead traps Rocca in a secret closet. He discovers that Maria's brother is imprisoned at the warehouse, so he and Marshfield go there while they have Rocca trapped, and by a subterfuge release the boy.

CHAPTER XIX.

The Outline of a Hand.

DAVID'S abrupt question broke the silence which followed: "What did you tell him to go to West Eleventh Street for?"

"I don't know. I had to tell him somewhere. I suppose"—I added, conscience-stricken—"I suppose I was thinking of Maria. It's all right"—for David was smiling grimly at me—"Rocca knows she's there. We can't give anything more away. We'll send everybody off somewhere, and then we'll hunt these dogs down. It's plain sailing now, and the police have got to help us."

"I'll stay at home nights if they don't," returned Marshfield, and thereafter held his peace until the carriage

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stopped in front of Mrs. Noyes's house in West Eleventh Street. Then he opened the door and stepped out.

"Here you are," he said. "Now for the reunion and the gratitude. Shall I stay until it's all over?"

"Don't be a fool," I laughed. "Come in. Mrs. Noyes will be glad to hear—"

I stopped short. In front of us, at the head of the high stoop, by the open door, stood Mrs. Noyes. There was no welcoming smile upon her kindly features. For once in her life my cousin was a messenger of evil.

"What is it?" Together, David and I rushed to the foot of the steps, reading at the same instant the disaster in her face.

"She's gone, Stephen!"

"Gone! But it can't be! I warned you not to let anybody in. She can't have gone." Every instinct in me cried out in denial of the blow. "I told you about tricks. I—"

"Hush, Steve!" Mrs. Noyes held up her hand to silence me, and her voice was low with compassion. "There were no tricks. I let no one in. She went of her own accord, my poor boy. I knew nothing of it."

"Of her own accord! She went of her own accord!" I doubt if the words meant anything to me as I echoed them. Dimly I was aware that my cousin was looking at me with eyes of infinite compassion, that David's hand held my arm in a steadying grip, that the rescued Pietro stood in bewilderment and exhaustion, motionless by my side. To me their figures were shadowy and lifeless. I had come to see Maria, to restore her brother to her, and she was not here.

Slowly the truth came to me—she was not here. I did not storm nor cry out. The full meaning of Mrs. Noyes's words sank too slowly into my brain for that. I could do nothing but stand and stare helplessly at her, and it was David's voice which first convinced me of the sickening reality.

"She left of her own accord, Mrs. Noyes?" he was saying. "No one came for her, then?"

"I saw no one. Jane told me that she gave a note to Miss Bigontina. And she left this behind her."

My cousin held out a large envelope to Marshfield. Like one who had no possible interest in the business, I watched him take it from her, open it, and spread out a large piece of paper. In a second he had jammed it into his pocket, with one quick glance up and down the quiet street.

"Come inside," he ordered. "We must think of this."

Within the formal drawing-room, as calm and dignified as when I had left Maria there with my cousin's arm around her waist, I came to myself.

"Let me see that paper," I said, and without a word Marshfield took it from his pocket and put the crumpled sheet in my outstretched hand.

In the center of it a great splotch of black, framed by the dingy white of some chemical smeared upon the paper, was the outline of a hand. Underneath, in the small writing of an educated man, were a few words in Italian. I carried the missive over to the window, pushed aside the heavy curtains, and bent to read the message:

> You will follow the man who brings this, or the head will follow the hand.

They had reached her! The ordinary ruses I had thought to ward against—the gas men, the telephone men, the hackneyed devices of the common sneak-thief — these were child's tricks to the villains I had dared to pit my wits against. They had reached her with a secret weapon, a threat of which I knew nothing. I raised my gaze from the sinister message, to meet three pairs of eyes fastened on me.

"What does it say?" David demanded sharply.

"You will follow the man who brings this, or the head will follow the hand," I repeated slowly.

Pietro Bigontina leaped upon me and tore the paper from my hand.

"It's mine!" he screamed. "It's mine! They took it yesterday. Look—look!"

He slapped the sheet on the table and his own hand beside it, heedless of the cup that shattered on the floor. It was one of Mrs. Noyes's most treasured possessions, I learned afterward, the last of an ancient set; at the moment no one thought of china, broken or whole, new or old.

For the hand upon the paper was the image of the living hand beside it. No one save me had understood the boy's cry; the fact was there for every eye to read.

"But, how?" Mrs. Noyes's awed whisper broke the silence that fell upon the room. "How did she know it was yours —and who are you?"

In reply, Pietro raised his hand from the table and pointed with the other to a deep scar that ran across the palm. In the same place, through the black effigy on the paper, ran a broken line.

"I cut it when I was young," he said in halting English. "She knows, for she is my sister."

His hand dropped back beside the paper, and silence fell once more upon the four around the table.

"Who brought this?"

With the question I raised my head to begin the long battle before us. We had won Pietro — we would not lose the greater prize.

"I do not know. Jane says—"

"Where is Jane?"

"I will call her." With extraordinary calmness, Mrs. Noyes walked over to the bell and rang it. A moment later the withered figure of the old servant appeared in the doorway. "Jane"—and my cousin's voice was as quiet as though she were ordering afternoon tea—"Jane, Mr. Stephen wishes to know exactly what happened this afternoon."

"Yes, ma'am." The woman was on the verge of hysterics; her nerves had never been of the strongest, and she was old; but the familiar voice soothed her. "Yes, ma'am."

"Who came here, Jane?"

I pushed the terrifying sheet of paper behind me and faced her with what ease I could assume. If we were to learn anything at all, there must be nothing more to frighten her.

"There was nobody, Mr. Stephen—I mean nobody came in. Mrs. Noyes told me not to let anybody in, and I shut the door in his face; indeed I did, Mr. Stephen—and all the years I have been in this house I've never shut the door on anybody before, rich or poor. There's always been the hall for them that came, whoever they were.

"But I shut the door on him, Mr. Stephen; and I chained it, too; for that was what Mrs. Noyes told me, and it's too long I've been with her, and her mother before her, to do different now, Mr. Stephen."

"My dear Jane, you did quite right. I only want to know who it was that came."

The gentleness with which I interrupted the maddening flood of apology was more than forced. I would have liked to choke the facts from her trembling lips, and behind me I heard David move impatiently; but there was no help for it —she would tell her story her own way, or not at all.

"It wasn't anybody, Mr. Stephen. It was just a driver-man. It's not the likes of him you would be knowing—a red-faced loafer—there's hundreds of them round here; more shame to the place I say, and you a Paget if ever there was—"

In her excitement, Jane had fallen back into old habits of speech and thought. She was headed for an endless dissertation on the glory of the family, when I interrupted her:

"What did he want?"

"It was a letter he had—a letter for Miss Bigontina."

"What happened then?"

"Happened? There was nothing happened. He was gone already when I came back, and why shouldn't he be? It's not me that would be letting him hang around the steps all day, like it was a saloon here."

"Of course not, Jane. And when did Miss Bigontina go?"

"Not ten minutes after, it was, Mr. Stephen. I know, for it was the old black dress she wore that's not fit for a lady, Mr. Stephen; as you know yourself, for all you're a man, and all the pretty things Mrs. Noyes got for her, not one did she touch. Oh, it was a shame to see her walk out the door like that!"

"My Heaven, why didn't you stop her?" The cry broke from Marshfield and me simultaneously, goaded beyond endurance by the thought of what had happened under the very eyes of the old woman.

"Stop her, Mr. Stephen! It's not for me to be stopping the guests of the family in their comings or their goings. It's not me who asked her to come, or me

who asked her to stay. I do my duty, Mr. Stephen; and I know my place, but such goings on I never saw here before in the house that was here before ever you were, Mr. Stephen."

"That will do, Jane. We are much obliged for your story. It will be all clear very shortly."

Mrs. Noyes cut in upon our dialogue with swift decision, and the faithful old woman betook herself elsewhere to recover her wonted composure.

"That's the whole story, Stephen." Mrs. Noyes turned to me with the gentle sympathy which had greeted me. "That's all I know, except this: Jane said it was left on the table for me. It's from her. Read it. The other paper was in her room."

It was a single piece of writing-paper she held out to me, folded over in the center and addressed to "Mrs. Noyes." Inside, the English words strange in the fine Italian handwriting, I read:

> Before I go I must thank you for your great kindness. I know it was your cousin and not you who brought Rocca here, and I will think of you often with great love. Now I must go to save others. Good-by forever,
>
> MARIA BIGONTINA.

"Who is Rocca, Stephen? The man in the cab with you this morning? If it was, then—" My cousin stopped in amazement, her gentle voice lost in a second wild outburst from Pietro.

"Rocca! What do you know of Rocca? He is not here — you cannot know him!"

"Do you?"

I jerked myself abruptly back from the livid face that was screaming in my very ear. The boy was shaking with passion, his slim hands opening and shutting convulsively, his dark eyes blazing with a light that was hardly sane. The long imprisonment had shaken his nerve, I knew; but, even so, such uncontrolled rage could have no ordinary source.

"Do you?" I asked again, for Pietro had not answered.

"Do I know him? It was for him I left Palermo. It was he— Do I know him!" The boy broke off to mouth at me in incoherent frenzy.

"Then, perhaps, you can tell me what this means."

I shoved Maria's letter into his hand, resolved to find without delay the bottom of the abominable business. My answer was astounding. The boy bent to read the letter, frowned at it for a second in the rather scanty light—then dropped it to the floor and sprang at me.

"You brought Rocca to her! Judas! Judas!" The last word ended in a choking gasp as Marshfield stretched out his hand and plucked the boy by the collar from my grasp.

"Behave yourself," he growled, shaking him like a naughty child. "Paget's the only friend you've got."

"He betrayed her. He told Rocca! He—"

"Nonsense. You keep still and listen for a while." David's grim voice and strong grip forced the boy into reluctant attention. "We got you out of that hole, didn't we? We didn't do it for love of you that I know of. We did it for your sister. If you want to see her again, stop howling and tell us who Rocca is, and what he wants of her."

Helpless in my friend's hold, Pietro glared savagely from him to me, seething with impotent rage.

"Listen, Mr. Bigontina." Mrs. Noyes's hand was laid on his trembling arm, and her quiet words seemed to restore its accustomed peace to the old room. "Listen, these are your friends and your sister's. She has misunderstood them, and she has gone. You must help us to get her back. Why do you fear this Rocca?"

She won him, as my cousin won every one she met. Beneath the steady gaze of her grave eyes, the wildness faded from his own. He ceased to writhe in Marshfield's grip; and, as David's hands dropped from his shoulders, he turned to her, speaking for the first time with restraint:

"He is our great enemy, *signora*. It was to escape him that I took my sister from Palermo. Now it seems that he has followed her and this man—if it is he of whom she speaks—has be—"

"Oh, no, I haven't," I interrupted him sharply. "Be careful what you are saying."

"Be still, Stephen. What do you care what he says? Rocca learned that she was here by accident. It was partly my fault. Why is he your enemy?"

"He calls it love."

There was a world of bitterness in the words, but that was easier to deal with than the hysteria of a minute before. Mrs. Noyes soothed him with voice and hand.

"I see now. We did not know. But if she did not care for him, why did she go?"

"To save me. That is my hand." He pointed to the outline on the white paper. "He would have killed me, and she knew it. She went to save me."

"Not to him! She has not gone to him!" This time it was I who sprang forward beside myself with rage.

Pietro faced me with a dull despair in place of the former frenzy. "Where else, then?" he asked.

"By Heaven, we'll—" I had started blindly for the door to do I know not what, when Marshfield's voice, ringing through the room, brought me to a halt.

"Steady on, Paget! There's more to this yet. Wait a minute."

"Wait! And she in that man's—"

"Yes, wait. You might as well decide where you are going before you get there, you know. Rocca had other business here besides Miss Bigontina. If she was all he wanted, he'd duck out of this so fast there's no detective in New York would see him go. But it's not."

"What does he want, David?"

Of the four persons in her drawing-room, Mrs. Noyes was undoubtedly the calmest; and yet we were men who were supposed to have seen something of the world, and she was a woman who had lived all her life in that sheltered house, secure from turmoil, free from even the thought of strife.

"He wants money, Mrs. Noyes. He came here to interest my father in an Abyssinian scheme. He may think he's in love with Miss Bigontina, but I know he's in love with gold. Well, he's got Miss Bigontina, but he hasn't got the gold. The Abyssinian business is still in the air, and he'll try for—"

"By Jove!" My exclamation cut Marshfield's theories short. "Look at this."

Down on the tea-table, by the side of the black outline of Pietro's hand, I threw the papers I had seized from Rocca's desk. The conversation we had overheard in the Auvergne came back to me as I studied them.

A map lay uppermost, but it was a map with letters where legitimate, open-hearted maps have figures that mean latitude and longitude. It was no good without the key, Ghedina had declared—and the key was safe in my desk. Marshfield was right. Rocca had Maria, but we had the gold he hoped to have.

Would he try for it again? Would he trade what he called love for the wealth those papers meant? If he would not, could I force him?

The questions were rioting in my brain when I was pushed roughly to one side. Pietro's boyish hand fell on the table, and his shrill voice rang through the drawing-room again:

"They are mine! They were stolen from me. What have you to do with them? They are mine, I tell you."

Confound the boy! I could have slapped his face; and, if he had not happened to have been Maria's brother, I think I would have done it. Here we had rescued him from a most unpleasant predicament and were striving to rescue his sister, and all he could do was to scream out what we were quite well aware of without him. My thoughts found speech in David's terse words:

"You darned fool, suppose they are yours? What are you going to do with them?"

The boy fell back from the table, staring blankly at my friend. With inherited quickness, David had fathomed the puzzle. Rocca had been trying to sell old Marshfield what did not belong to him—a share in an unlocated mine and a railroad that was not yet built. The hitch in the negotiations had been caused by his failure to produce the title to this property.

All the time he had been confident that his agents would ultimately succeed in stealing the papers from young Bigontine. They succeeded; but I, too, had succeeded as a thief better than I knew. The papers were ours and, as far as Abyssinia was concerned, Rocca was back where he was when his agents captured Pietro and turned Maria out of her humble refuge opposite my apartment.

All this, or the essentials of it, David grasped as well as I, while the boy stood

glaring at him; and Mrs. Noyes waited in silent, restrained bewilderment.

"What am I going to do with them?" Pietro muttered at last. "They mean a fortune. My father told me he left them to me for Maria and me. It's a fortune, and I am going to give it to her."

"What's her address?" retorted Marshfield grimly. "If you are going to send her a fortune, you might find out first where you are going to send it."

CHAPTER XX.

The Cabman's Gratitude.

SILENCE fell upon us. David had stated the problem, but no one of the four in that formal drawing-room could find the solution. What was her address? Until we knew that, the papers on the little tea-table were of no more service than the bags of gold Robinson Crusoe found in his wrecked ship.

Idly, I turned them over as one might play with the contents of a waste-basket. It was all plain enough now. There was the map, with the route through the mountains of Abyssinia to the mine that was rich enough to bring Rocca from Italy to grasp at its wealth; the deed from Menelik, "King of Kings," granting to "Luigi Bigontina and heirs for all time" property, the location of which was expressed in cipher; a paper that gave to the same Luigi Bigontina the right to construct a railroad from this property to the coast; everything was there except the key to the map and the deed, and that was safe in my own rooms.

"How did you get these?" I asked at length.

"They were my father's," said Pietro. "He traveled much. He was in Abyssinia before there was war and the Italians were driven out. He told me that he died poor; but that, if I was wise, I could make myself rich, and Maria also. He gave Maria to my care, and now—"

The boy broke off with a sob that came from his heart. For the first time, I think, my own heart went out to him. After all, he was only a boy, and the odds had been heavy against him.

"Your father is dead?" My cousin's hand was laid on Pietro's shoulder again with undeniable sympathy.

"Yes, he is dead. I knew that he had been negotiating with Rocca about this mine, and I tried to carry on the negotiations. But Rocca saw I was young. He wanted to get everything and pay nothing. Then my sister told me—ah!" His anger choked him, and he stopped with a gulp.

"She told you that he pursued her, and that she did not care for him?" Cousin Lucy's ideas of the business side of the affair were doubtless of the haziest, but she knew instinctively what must have driven the boy and girl from the white-walled villa on the green slopes above Palermo.

"Care for him! She!" The bitter scorn in Pietro's voice was music in my ears. "But Signor Rocca is a great man in Sicily. After she told me, I did not leave her for a minute. It was unbearable—never to be safe, never to draw a free breath, to keep her always behind walls, to fear every one—servants, policemen, the priest himself—ah, you Americans, you do not know Sicily; you do not know what power means."

"We can guess," interrupted Marshfield. "What did you do about it?"

"We fled. We had enough for our passage, but we bought no ticket. When the steamer came, we went out to her in a small boat. There were many on board—no one noticed us. After she had sailed, I went to the purser and paid.

"I thought we were quite safe. Our old nurse was there. We went to her. There was no reason why Rocca should ever know what had become of us."

"How did he?"

"Ah!" Pietro flung out his hands in an eloquent gesture of despair. "He is the devil incarnate. He knows everything. I went out one morning, I was trapped, lured to that den where you found me. I had tried to sell my papers to an Italian banker — Cagno was his name — perhaps it was he — I do not know. How did you find me?"

"Paget, here—" Marshfield began, when I cut him off:

"We're wasting time. It doesn't matter how we found you. The question is, where is your sister?"

Marshfield walked thoughtfully over to the window and pushed aside the curtains. "That," he said slowly, "*is* the

question. Where is your sister? By Heaven!" He twisted his head about, pushing his nose against the glass in the effort to follow some object along the street.

"What is it?" I leaped for the other window, but the street stretched empty before me. "What is it?" I cried again, for David's excitement was obvious.

"That cabman! What the blazes is he hanging about here all the time for? He just drove by — maybe he'll come back."

Together we rushed into the hall, tore open the door, and dashed bareheaded out upon the stoop. At the corner of Fifth Avenue a cab was turning. Slowly it came toward us, and I held my breath as I watched. It was the carriage in which we had driven from Barent Street, and on the box was the stout, red-faced driver, who two nights before had shaken hands with me in the back room of the obscure saloon and called me a square man.

In the tumult of our flight from Barent Street I had not stopped to examine our driver, but there could be no mistake about it. It was the same man. Though his face was steadily averted, as he came slowly down the street, I recognized the heavy figure I had hurled myself upon and the fat neck my hands had throttled. He was the same man, and he was not loitering in that street without a purpose.

Suddenly my hand shot out to grasp Marshfield's arm. "Look!" I whispered. "Look!" The cabman was opposite to us now, his face turned studiously toward the brown row of houses across the street. But the whip in his hand pointed ahead—pointed immovably to the gaudy glass front of the saloon which ornamented the corner of Sixth Avenue.

In front of it the cab stopped; without glancing behind him, the cabman climbed down and entered. A minute later, Marshfield and I pushed open the swinging doors, passed the crowd around the bar, and came upon him in the back room.

For an instant his eye roved furtively around the room, empty save for us; then he thrust his heavy face close to mine.

"You treated me white," he muttered, "and I haven't forgotten it, either. Is this a friend of yours?" He jerked his thumb toward Marshfield.

"The best I've got," I answered as David took a step forward.

"I'm David Marshfield," he began. "Probably you've heard of my father. He can make it pleasant for people sometimes—when he feels like it."

"I ain't looking for graft, young feller." The cabman's voice was rough and surly. "If I was, I wouldn't bother with you nor your father—I'm too fond of my skin for that. But this feller done me a good turn when I was down, and I'll do as much for him."

"What is it, man? For Heaven's sake, speak!" The cabby's slowness and the fear that was revealed in his furtive glances and underlaid the gruffness of his words were maddening.

"That girl you was with—you want her, eh?"

"Want her! Do you know where she is? Want her!"

"Easy, man; easy. This ain't for the whole city to hear. Yes, I know where she is. They made me go and get her, and they sent me down to Barent Street. I didn't want to go, I tell you—no more than I wanted to carry you and her down there before. You don't think it's fun for a white man like me to be taking orders from a pack of greasy dagoes like them, do you?"

I choked down my impatience and waited.

"When I seen you and your friend come busting out of that place," continued the cabby, "I knew jolly well that wasn't what I was waiting for. All the way up here I says to myself, 'this feller's lickin' 'em, and lickin' 'em good. If he can do it, I can, too. He's a white man. He treated me right, and I'll treat him right. He's got 'em on the run, and I'll help him.' That's what I said, and here I am."

He stopped with an air of conscious virtue that might have been ludicrous had the stakes been lower; at the moment even Marshfield had no eye for the humor of it.

"Where is she?" I demanded, and my voice broke with the strength of the hope that was in me.

The man was not there to aid us with the comfort of his society. Probably he

did want to help us, and when he saw us burst from the warehouse it must have struck him that his hated masters were getting the worst of it. If he was ever going to change sides, this was a good time to begin.

"She's across the bridge in Brooklyn. I took her there. It's a house just above the river."

"Well, you take us to the nearest police station. We'll be inside that house in half an hour, Steve, and the business will be done."

Marshfield was already at the door when the cabman sprang after him and dragged him back by sheer force.

"For Heaven's sake, no!" he cried. "Do you want to kill her?"

"Kill her!" My face went white as the words burst simultaneously from my lips and David's. "Kill her!" we gasped again, and stood helpless before him.

"That's what I said." He spoke with a conviction that appalled us. "I've heard of that house. Dead men tell no tales—nor girls, neither—not when the body can't be found, that is. And the police won't find no body.

"You chumps!" he broke out with sudden heat. "What do you think you're up against—a lot of chickens? I'm a big man, ain't I, and I been driving around the city like a yeller dog for the last year doin' whatever I was told, and not darin' to make a squeal. Why do you suppose I did it? For my health, that's why. Run for the police—run for the undertaker."

"Then, what are we to do?" It was like a child's cry for help. I had fought Cagno, I had fought Rocca, I had fought this cabman. I had done it gladly, and would do it gladly again. But now it was her life, not mine, that would be risked. I had reached the end of my rope.

"You'll have to dope that out yourself." The cabman was speaking again, but I hardly heard him. "I'll tell you this, though. It's my idea that they expected to take some boy from Barent Street to the house. Who was that guy you made off with so fast? I sort of think it was him they was after."

"You're right there. We've got to think this thing out, Steve." Marshfield walked over to a table and sat down. "They took Maria there, and they wanted to take Pietro there. Now, what does that mean?"

His brows met in concentrated thought as he gazed across the dim, sordid room to the blank wall opposite. He was singularly like his father, I thought, as my brain toiled futilely with our overwhelming problem and my eye rested vacantly on him. The half-cynical humor was gone from the face now; all that was left was Marshfield strength, and hard, practical, Marshfield common sense.

I was weary and discouraged; for a second I was tempted to fling my burdens on his broad shoulders and sit down to wait. Involuntarily, my own shoulders squared themselves as I drove the weakness from me. It was my fight, and I would fight it. And in that instant of determination there came a gleam of inspiration.

"It means that Rocca thought he had won. He had the boy already, didn't he? He knew where Maria was, and he knew that his message with Pietro's hand would bring her to him. He had the Abyssinian stuff—I took it from his desk—and he expected to do for me down in Barent Street.

"When I wouldn't go, he tried for me in his own rooms. He planned all this after he saw Maria in Eleventh Street—when he thought he had us licked. The only thing he hasn't got is the key to those papers. I've got that, thank Heaven!"

"You have, eh?" David looked up at me with quick intelligence. "You mean you think you have. You've hit it all right, Steve. Rocca thought he was on top, but he didn't miss that key. You remember what they said in the Auvergne? They knew you had that book, but they weren't going to touch you because they wanted to find out where Maria Bigontina was. Well, they found out; and what do you suppose they did next?"

"Went for the key!" I cried.

"Yes; and got it, too. A child could bamboozle that fool of a doorman of yours. There is no black book in your desk now, Paget."

"What, then?" Slowly we were piecing together the members of the puzzle;

but we were getting no nearer our goal, no nearer the prison of Maria Bigontina.

Suddenly Marshfield sprang to his feet, his fist crashing down upon the flimsy table in front of him. "By Jove!" he shouted. "Rocca's a scoundrel, and there was never a scoundrel yet who didn't think everybody else was, too!"

I frowned impatiently at the excited man. "What's that got to do with it?" I demanded. This was no time for the study of the psychology of crime. What did we care what Rocca thought of the world he stained?

"We'll send the governor to him. He'll say you don't know what the papers are worth; but he does, and he wants to make a deal. Rocca'll believe him—it's his only chance to get any money out of it—and he'll bite. He'll put the governor down for a cur like himself, and the governor'll fool him—good and plenty, too."

"Send Mr. Marshfield!" Of all the wild ideas that ever entered a sane man's mind, that was the wildest. "Send Mr. Marshfield!" I echoed, and the picture of the cold banker who had practically ordered me out of his office that morning rose before my eyes.

"Yes, my father; he'll do the trick."

David sprang past me, through the door, and to the telephone at the end of the bar. As hopelessly bewildered as the red-faced cabby himself, I followed aimlessly, to stand dazed behind him, while he called for his home number. It was all pure folly, and David must be out of his head to think of it. Mr. Marshfield had nothing to do with the thing, cared nothing for Maria or for me. He had refused even to listen to a straightforward story when I had asked his help, and now his son was proposing to send him on an impossible errand into the very hands of our foes. The plan was sheer delirium, raving—

David's voice rang clear and calm through the noisy saloon.

"Hallo, father! That you? This is Dave talking. I want you to come down here at once, if you will—down to the saloon at the corner of Sixth Avenue and Eleventh Street. No, I'm not arrested; but I need you right away.

"We'll wait for you. We? Steve and I. Oh, I can't shout it to you over the phone. We need you. A hansom will be the quickest. You'll come? Good-by."

He hung up the receiver and turned to me with a quiet smile.

"You don't know the governor very well, Steve. He'll be here in twenty minutes. He'd go, anyway; but I wouldn't ask him if there was any danger. Nobody'll touch old Peter Marshfield."

(To be concluded.)

RAILROAD SCHOLARSHIPS.

THE Frank Thomson scholarships have become an institution on the Pennsylvania, and their objects and provisions are too well known to require extensive explanation here. They were established by three children of the late President Frank Thomson, of the Pennsylvania, a sum of one hundred and twenty thousand dollars being given to form a fund by which eight scholarships, of six hundred dollars each per annum, would be granted to sons of living and deceased Pennsylvania employees.

The scholarships are awarded two every year, the course extending four years. This year the successful candidates were Benjamin M. Snyder, of Elmira, New York, and Wallace Brockman Porter, of Youngstown, Ohio. These two young men will make six holders of the scholarships, two being yet to be awarded next year and two a year thereafter, as each pair completes the course.

By securing sixteen points out of a possible sixteen, Wallace Brockman Porter enjoys the distinction of having made the highest mark in his examination ever made by a candidate for a Thomson scholarship. Young Porter is a son of James Porter, a tallyman in the freight station of the Pennsylvania lines at Youngstown, Ohio. He will be seventeen years old in October, and has just graduated from the Rayen High School of Youngstown. He has not decided as yet what college he will attend.

Benjamin M. Snyder, Jr., is a son of B. M. Snyder, engineman on the Elmira division of the Northern Central Railway. He has been attending school at the Starkey Seminary at Lakemont, New York. He is nineteen years of age, and expects to enter the University of Pennsylvania at the opening of the college this fall. He will take a course in civil engineering.

The Railroad Man's Brain Teasers.

What Distance Does a Man Ride When He Walks, If He Walks When He Rides? Also the How of a "Y."

BRAIN teazers are still coming in, so we, happily and perforce, are still giving them out. Encouraged by the example of Mr. Cook, Mr. Ernest L. Way, of Wichita Falls, Texas, sends us the following:

There are two stations exactly five miles apart. A train of box cars, just one mile long, is in one of the stations; or, rather, the caboose of the train is even with the depot, while the engine, of course, is one mile from the depot, or four miles from the next station. Now, just as this train pulls out, a man comes from the depot and, climbing on top of the caboose, walks toward the front end of the train. As the train went faster than the man walked, the engine got to the next depot just as the man had reached the front of the train. The engine stopped even with the depot, which we remember was exactly five miles from the one they had started from. The train has only gone four miles, while the man has gone five.

How far did the man ride?

Also, we have received from Mr. C. L. Garrison, of Elwood, Indiana, the following "Y" puzzle:

An engine northbound wishes to turn at "B." The only means of turning is by the "Y", and, to our disappointment, we find the "Y" in use. There is a car of stock at chute on north leg and a car at grain door on south leg, and merchandise-car on main line at house. We turn, leaving all cars on spot as found, with no drops or stake-outs allowed.

How do we do it?

ON THE EDITORIAL CARPET.

Side-Talks With the Man Who Sits in the Cab of the Magazine and Watches the Signals.

TRUTH may be stranger than fiction, but it doesn't make as good reading. Furthermore, when we all get together under the water-tank it doesn't make as good telling. The hog-head who sticks to fact when he is telling of his heart-breaking experiences with a green fireman, or the shack who truthfully tells how many wheels he didn't twist when his string broke in two climbing a steep grade with straight air, may be good railroaders, but they will never be popular as yarn-spinners.

Not that we have anything against a good true story. In fact, we believe that many true stories sound almost as thrilling and convincing as if they were of the good old stove-pipe variety. Fiction is the spice of life, and most of us like to help keep the world in pickle.

Of course, we do not mean that we like to sit around in the caboose and tell stories that are not true, but, as Tennyson does not say:

> A truth that is half a lie,
> Is easier to bite.

And this brings us, by very easy and obvious stages, to the February number. That's what made us think of fiction, and when we think of a thing we always have to feed it into the boiler or bust the injector.

The February number is going to have the finest fiction section we have run for a long time. Spike Malone will be along in an auto story that would burn up the ties but for the fact that there are no ties on a highway.

Our old and well-tried friend, Robert Fulkerson Hoffman, will switch in and let us into a secret. The secret is, "Why Bayard Stayed." We are not going to give him away, but anybody knows Mr. Hoffman's secrets carry "Special" markers.

Two distinguished writers in the persons of George Allan England and Charles Battel Loomis have snapped some of their high-class equipment onto our flier this run. They're in good company—so are we.

"Barbed Wire Chivalry" is a story of a lady by a lady, and both ladies have enough steam and sand to carry them anywhere on schedule.

Look out for that story, now. It's funny and it's tragic, but it keeps on the rails and finishes in first-class shape.

"The Calculator," by Calvin Johnston, is as bright as a new baggage-car, and E. Florence is aboard with a new Duganesque yarn.

As we announced last month, it was our intention to let "The Spider of Palermo" run into the roundhouse in this number, but we were so crowded with first-class merchandise that we had to double the hill with the "Spider," and run it in two sections.

But, although we are particularly strong on fiction in the February number, we haven't given the big hole to the special articles by any means. We haven't even made a service stop. The specials are running along just as merrily as ever.

Mr. Horace Herr concludes his reminiscenses of "Being a Boomer Brakeman" with some serio-comic experiences in Mexico. Just confidentially we might whisper in your ear that we have another series coming along pretty soon by this same Horace Herr, and we don't know when we read anything so human, pleasant, and railroady.

Anyhow, when you hear the nickname "Almost," just you open your sand-valve and your throttle-valve, and head right into the newsdealers with your little dime and don't be happy till you get the first number of that series. We don't know exactly when we shall begin it, but keep your headlights in this general direction and we'll flag you in time to give you the meet order.

What do you think of the "Letters of an Old Railroad Man and His Son," which begins in this number? In the February number Dr. Da Costa is just getting her nicely warm, and she is making steam at a great rate. Swing aboard!

Another article you'll be glad to pick up is a story by Mr. Carter on "When Budding Genius Has the Right of Way." It tells something about the beginnings of things.

Since some of these beginnings, motive-power and rolling-stock have advanced al-

most beyond recognition, but some day we shall probably look back at the crude, ineffective toys of to-day much as we look back now on those of yesterday.

Did it ever strike you that in spite of all the genius and labor that has been expended, in spite of all the millions of dollars that have been poured out, the only piece of motive-power that is absolutely perfect in design and operation, is the simplest and cheapest of them all—the bent pin?

Brakes up for February!

IN THE BACK SHOP.

DID you ever notice how breakdowns of a similar nature often come in bunches, so to speak? Sometimes it's front trucks, sometimes it's axle-boxes, sometimes it's broken rails, and sometimes it's nothing worse than the water-coolers in the day coaches.

It's the same thing with earthquakes and bad colds, and it's the same thing with people getting tired of their jobs.

It's the prevalence of this latter disease that prompts us to pound our editorial typewriter with a few thoughts of gentle sandpaper treatment.

Just lately we have received several letters, not to mention lengthy articles, on the general cussedness of being a railroad man in general and a railroad clerk in particular.

One disappointed gentleman assures us that a man who persists in getting his daily bread by filling out forms or keeping accounts in manners prescribed by the Interstate Commerce Commission or the American Railway Association, is, in short, worse than a fool.

He says that whatever good work a man does, his superior hogs the credit for it, and whatever mistakes his superior makes, the clerk bears the burden thereof.

He says he knows because he has been there.

He says the chief recreation in a railroad office, next to this "puss, puss, come to my corner" game, is favoritism.

He says—well, he says many things—and he says them with much emphasis. There are others.

The experiences of our friends may be true, or, on the other hand, it may be their livers. We are inclined to think it is a little of both.

We don't suppose that anybody will claim that human nature is different in a railroad office from anywhere else.

Real men in railroad positions do not hog credit nor shift responsibility any more than do real men in any other calling, and there are just as many real men.

Now, friends, don't be too serious about this matter. You don't really believe that because some little man camps on the trail of your good work that he can keep you from *making* good. A bit of credit doesn't make any difference one way or the other in the long run.

If you've got the goods, you can show them at any time. If he hasn't, he can't show them except when you or some other fellow is around.

Honest, you don't have to have somebody behind your chair patting you on the back. This is too serious a world for us to take it so seriously.

Perhaps you are doing first-rate work, but then even that isn't so all-fired important. Don't let what you *do* be more important than what you *are*. What you do is an incident; what you are is the force back of the incident.

Your work is what you do. If you sit around and weep because the Old Man doesn't get to know that you did it—*that* is what you *are*. It's all in the game.

Perhaps you haven't got as strong a hand as you fancy. Perhaps you ought to throw some of your cards into the discard and draw some more.

Perhaps the other fellow isn't bluffing at all. Never mind if he is.

Just get on your face the grin that won't come off. Sit tight, and back your hand with every chip of courage, skill, determination, and, above all, cheerfulness, that you have in your stack, and when you've put in your last chip borrow some more from your neighbor. Your credit is good. Stay in the game and don't call.

You'll find it a real fine, enjoyable game, and you'll find that it's a game where a bluff never wins a pot worth the winning.

Don't try it, and don't worry about the fellow who is trying it.

Get a good hand—then stay—and smile.

"JIM BLAKE."

HERE are the complete words of the song "Jim Blake," which we asked for in our November "Carpet," in response to the request of a number of our readers:

"Jim Blake, your wife is dying,"
Came over the wires to-night.
'Twas brought late into the office
By a boy 'most dead with fright.
He came rushing into the office,
His face was pale and white.
Saying, "Take this to dad in his engine,
For mother is dying to-night."

Jim Blake was our oldest driver—
  Had charge of the midnight express.
He'd handled the throttle lever
  The most of his life, I guess.
And when I found this message
  Was for my comrade Jim,
I made no delay, but hastened away
  And took this message to him.

In less than half an hour,
  An answer came back from him:
"Tell wife I'll meet her at midnight,
  Tell her to pray for Jim."
I left his son in the office,
  The message I took to his wife,
I found the dying woman,
  With scarce a breath of life.

And when I entered her chamber
  She took me at first for Jim,
Then fell back nigh exhausted,
  When she found it was not him.
She raised her eyes toward heaven,
  Her face was pale and white,
And said in a dying whisper,
  "God speed the express to-night."

O'er hill, o'er dale and mountain
  There rushes the midnight train,
Her whistling and her screeching
  Resisting the mightiest strain.
But Jim sits there at the lever
  That's guiding her dangerous flight,
While a voice speaks out in the darkness,
  "God speed the express to-night."

In less than half an hour
  The train will be along.
Hallo, here comes the signal
  Stating there's something wrong.
It tells of a sad disaster—
  The train is in the ditch,
The engineer lies dying,
  Derailed by an open switch.

But still another message
  From the engineer, I guess,
"Tell wife I'll meet her in heaven.
  "Don't wait the midnight express."

TRAFFIC RULES.

AS a rule we can give only six pages to this department. If we were to attempt to reproduce all the letters of our friends and the songs and poems they send us, we should need at least fifty pages a month, and pretty soon the magazine would look like the autobiography of a poet.

The editor would rather earn his bread by twisting wheels on a Mexican jerkwater road than produce a magazine that looked like the autobiography of a poet. He would rather try to haul perishable freight through a snow-drift with a dying engine. He would just as soon try to mend a snapped axle with a barbed-wire fence, or—well, never mind, he knows too many poets for him to talk calmly on this subject.

Therefore, in view of the editor's strong feelings in this matter, not to mention the limitations of space, it is manifestly impossible for us to publish all the songs and letters we receive every month. For this reason, if any of our friends look in vain, month after month, for an acknowledgment of their always appreciated communications in this department, let them not feel hurt or neglected if they do not see one.

All letters sent to us, on whatever subject, if they contain a legible name and mailing address, are answered by mail. If you do not get an answer by mail, you can conclude that your letter was either unsigned or had no address.

We feel a keen personal interest in all our readers. We are glad to advise them in their perplexities, sympathize with them in their troubles, and congratulate them on their good fortunes, as well as contribute in a general way to their amusement.

We want every man to feel that he can write to us. His letter will be appreciated, and we want him to clearly understand that if he does not get an acknowledgment it is through some slip on his own part, or because the crowded condition of our tracks prevents us from switching his private car onto the main line.

A RAPID RAMBLER'S RIMES.

F. C. WELCH, alias Penn, the Rapid Rambler, has turned his life-story into a pretty deft piece of poetry—at least, unlike the effusions of most of the *wanderlust* brotherhood, it has the merit of being brief. The Rapid Rambler has been a professional tramp since May 4, 1894, according to his own reckoning. Since that time, he has traveled 539,122 miles, and has paid but $11.07 for railway transportation, ferry tolls, and street-car fares. He has circumnavigated the globe three times. He keeps a diary, and can tell where he happened to be every day since he started out. The tearful tale of Welch's method of hoodwinking innocent conductors appeared in brief in our October number:

PENN, THE RAPID RAMBLER.

The Rapid Rambler came to town,
And broke all records coming down.
From Smokyville is where he hails,
Where "Gay Cats" leave without their tails.
His monniker, inscribed as "Penn,"
On tanks you'll find it, now and then.
Trainmen, no matter where they go,
Are all acquainted with this bo.

And not one even makes a holler,
But gladly hands him out a dollar.
The salve he hands you out is great,
And, with most people, carries weight.
All other bos are pretty shine
When "Penn" starts rambling down the line
To ride a rod. Oh, no! not he—
He's not that kind of tramp, you see.
A pen-knife serves him as a punch,
Of hat-checks he has got a bunch,
And there you are. A little nerve
And gall, of course, at times will serve.
This Rapid Rambler has the knack
To spread the salve for con. and shack.
The history of his life you'll hear,
In every paper far and near.

FROM NEWFOUNDLAND.

AN old friend and brother in Lewiston, Newfoundland, sends in the following welcome letter. It comes from a part of the continent where we have many readers, and we would like to hear from them more frequently:

With the Reid Newfoundland Company's lines, THE RAILROAD MAN'S MAGAZINE is all the craze, but, like others, we have a fault to find. In a recent issue you dismissed entirely the brakeman. Well, he cannot yet be done away with on some roads—more the pity—but, eventually, we expect to see the day when braking is a position of the past.

There are some few names of old railroaders who are still at it, which have yet to appear in the "Roll-Call of Veterans."

Newfoundland is, no doubt, the greatest country available for fish and game hunting. The railways passing through the favorite places for fishing and shooting afford every access to them. Hundreds of sportsmen visit us every year, and are highly delighted with the sport obtained.

We are constant readers of THE RAILROAD MAN'S MAGAZINE, and here's that she will always keep the main line to prosperity and never run "over the points."

HARRIMAN'S FAMOUS SAYING.

MR. F. W. SAWARD, general manager of the *Coal Trade Journal*, writes us as follows about that famous remark attributed to the late E. H. Harriman—"Not yet—but soon!"—referred to in our November issue:

Am afraid you did not get the Harriman answer in the insurance case just right. I note in your current number you quote him as saying: "Not yet, but soon." His words were, as a matter of fact, "Not yet." The whimsical emphasis that he placed upon them prompted every newspaper man within range to presume that "but soon" was in his mind. It was this form of reply that caused the comment to attract the attention that it did.

RAILROADS AND FARMERS.

JOHN L. McLAURIN, formerly a United States Senator from North Carolina, now one of the largest cotton planters in the South, said, most truthfully, in a recent speech, "The diplomacy of the world has resolved itself into a question of commerce," and, "The farmer will dominate the situation henceforth, and the business man will not fix the prices of farm products in the future."

Both of these important statements have a direct bearing on the railroads—the backbone of our nation's industries. Commerce depends on transportation—that we all know—but it is only of late that the railroad and the farmer were considered of vital importance to each other. To-day, every railroad is spending time and money in a complete study of scientific farming, and the closer relation of these two great institutions is going to work to the greatest advantage.

Our esteemed contemporary, *The Railway and Engineering Review*, in its issue of November 13, says on this subject:

The attention which is being given to farming economics by railway officials these days is notable. Mr. James J. Hill, of the Great Northern Railway, has long been known for his intelligent study of the conservation of the fertility of the soil, and other important questions touching the future of the farming industry in this country.

Of late a number of other railroad managements have been agitating better farming methods, both by public addresses and by assistance in taking demonstration trains around the country. One of these trains, equipped and manned by the Pennsylvania State College, will be operated over the Erie and Pittsburgh division of the Pennsylvania lines next week. The operation of an experimental farm by the Long Island Railroad was noted in our columns a few weeks ago.

Demonstration cars exhibited at the Dry Farming Congress, at Billings, Montana, last month, are now being taken through Nebraska and Iowa. The address made by President Brown, of the New York Central lines, at the banquet of the Railway Business Association in New York City, this week, goes into the statistics of the average yield of farm lands, surplus for exportation and kindred subjects, which indicates a grasp of the question by that gentleman.

The efforts which railroad managements are making to increase farm productivity,

which in turn must augment the volume of freight traffic, which is what the railroads want, is not a little. The question is really a mutual one between the railroads and the farmers.

A VALUABLE POCKET GUIDE.

"THE STANDARD GUIDE FOR LOcomotive Engineers and Firemen," by Ed. Turner, is an illustrated pocket manual for the convenient use of railroad engineers, firemen, and machinists, covering breakdowns, quick repairs on E T equipment, New York brake equipment, compound engines, injectors, lubricators, etc., standard rules for engineers and firemen, signals, and definitions of railroad terms.

The work contains seventy specially drawn illustrations, made under the supervision of the author, and a map with tables showing points at which railroads running east or west change from one time to another. It fits in your vest pocket.

To engineers and firemen this handy guide will be of incalculable value, as it will not only enable them to give an intelligible account of all the parts and workings of the locomotive and its equipments, but will furnish them with the necessary information for the prevention and quick repair of breakdowns of every description.

It costs only 75 cents a copy. The publishers are Laird & Lee, Chicago.

THE CHATSWORTH WRECK.

ANOTHER old song that was called for in our November number was "The Chatsworth Wreck." The complete words were supplied by Mrs. J. L. Carney, Chicago, Illinois, and Elmer Bush, Ritzville, Washington. They are published herewith:

From city, town, and hamlet,
They came, a happy throng,
To view the great Niagara,
With joy they sped along.
The maiden and her lover,
The husband and the wife,
The merry prattling children,
So full of joyous life.

CHORUS:
But oh, how much of sorrow,
And oh, how much of pain,
Awaited those who journeyed
On that fated railroad train.

With hand upon the lever,
And eye along the track,
The engineer is standing,
While shades of night are black.
They pass the town of Chatsworth
And rush into the gloom;
Ah! could some power have stopped them,
E'er they had reached their doom!

REPEAT CHORUS.

For see—the smoldering embers
That lie along the ridge!
Ah, God! In pity save them—
It is the railroad bridge!
Too late to turn the lever!
Too late to stop the train!
Too late to soothe the sorrow!
Too late to ease the pain.

REPEAT CHORUS.

A mighty crash of timbers,
A sound of hissing steam,
The groans and cries of anguish,
A woman's stifled scream—
The dead and dying mingled
With broken beams and bars,
An awful human carnage—
A dreadful wreck of cars.

REPEAT CHORUS.

All honor to the heroes
Who flame and fury fought,
All through that night of horror—
A glory dearly bought.
As over land and water
This thrilling message crossed:
"The bridge was burned at Chatsworth;
A hundred lives are lost."

REPEAT CHORUS.

OUR FRENCH FRIEND AGAIN.

FRANCE has a loyal son in one of our correspondents, who, from time to time, writes us interesting letters, in which he tries to prove France's superiority in the matter of railroading. Some time ago he wrote us about train movement in and out of certain terminals. He now writes us on the subject of train speed.

We fear that our French friend, in his enthusiasm, sometimes gets his figures a trifle mixed. But while his records are not always quite what he claims for them, his letters are quite illuminating and very welcome.

Here is the first part of his present letter:

Apropos of train speed, just coming back from England and reading an article on the subject, I think France is ahead of America and England. On the French line, the Nord line, a train leaves Paris at twelve in the morning and arrives at Calais at three twenty-five in the afternoon, stopping only once, at Amiens, four minutes to take coal and water.

The distance is three hundred kilometers. That train makes the run in three hours

and twenty-five minutes, at an average speed of one hundred and ten kilometers an hour.

We have not attempted to verify the statements made above, but, obviously, three hundred kilometers in three hours and twenty-five minutes, is not equal to one hundred and ten kilometers an hour, and the run would certainly have to be made at near that speed to equal the Darlington-York, and Camden-Atlantic City runs, with which our friend is making his comparisons.

In another part of his letter he says:

Lately has been built in the center of France, the highest bridge in the world, called the Viaduct of Fanes, which is situated at a height of 132 meters, above the valley of the river Sioule.

The iron constructions used weigh 2,400,000 kilos. Seven years were employed for the building of that bridge, but during two years and a half the work ceased, the cause being a landslide. The engineers were obliged to dig at a depth of forty meters to find dry and solid ground.

The entire cost of the bridge was $800,000.

At the present moment, as we are hurriedly going to press, we have not the exact figures of a recently built bridge over the Grand Cañon of the Colorado, but we are of the opinion that they dwarf these figures, and we shall take pleasure in looking them up and publishing further information.

RUNNING EXTRA.

GAS bills are mounting in Oakland, California, because of the popularity of THE RAILROAD MAN'S MAGAZINE. Just as we were getting into clear for our meeting-place with the press department, the mail carrier came along and handed us the following merit marks:

I have been a reader of THE RAILROAD MAN'S MAGAZINE for the past two years. I did not know what I was missing the other year, or I would have taken it then.

We get it out here on the tenth of each month. The only kick we have is that we don't get it often enough.

When I finish with it, I give it to my son. The other morning I had to get up at two o'clock, turn out the gas, and take the book away from him.

Could you kindly publish "The Face on the Barroom Floor," and oblige,

W. H. K., Oakland, California.

We now recommend to gas companies throughout the country that it might be a good scheme for them to send in a few thousand subscriptions to THE RAILROAD MAN'S MAGAZINE and distribute the copies broadcast.

As for "The Face on the Barroom Floor," we must frankly admit that we are not familiar with the classic. Judging by the title, we hesitate to make any promises, but if any reader is familiar with the poem, we shall be glad to take a look at it, anyhow.

HELP FOR THE CRIPPLE.

OUR thanks are due to Mr. Bob Boswell, of Glendive, Montana, for rigging up a cylinder for a cripple we published in the November number. Robert, you certainly are some poet, and if there are one or two flat places in your drivers, you've got a pretty good roll on her, and she looks as if she'll make it up the grade.

Besides the verses, Bob sends us the following breezy little letter:

In your November number of THE RAILROAD MAN'S MAGAZINE, you published a poem entitled, "Hobo, Where Art Thou Going?" That guy at Miles City blew out his cylinder-head just out of the Glendive yards, so we threw on the air, and with a little difficulty managed to pick up a piece of it, and here she is, in the back shops again.

Enclosed you will find a verse that after a little patching will probably help her to pull over the division:

Talk about the N. P. brakeman,
One thing I want to say—
Don't forget the U. P., where freights
Hold the right of way.

From Omaha to Ogden, the
Brakeman has his fun,
While the yard bull is kept busy,
Keeping hoboes on the run.

And when we get to Laramie,
Then we'll tie up for rest,
And in the lunch-room we will go,
Looking our very best.

And when Eagle Eye is ready—
His clearance it says, "Go!"—
We'll get our lantern in our hand,
And say this to the bo:

CHORUS:
Hobo, just keep on going—
Did you say you're going to Chi?
Just climb in that empty box car,
And you'll get there by and by.
On the U. P. you don't have to pay,
And that you ought to know.
So get in warmest car or climb on the deck—
Be sure you've got your right hat check—
Hobo, just keep on going.

Stop heating nightmares

Your dreams about heating may be made blissful or dreadful—as you choose.

It is not the nightmare alone that comes from the work and worries of old-fashioned heating—you find your heating nightmares are realities in the morning. They are real nuisances which spoil your peace of mind by day and wreck your sleep by night. But there's a remedy.

AMERICAN RADIATORS & IDEAL BOILERS

afford the only means of heating which bring repose and health. These outfits for Hot-Water and Low-Pressure Steam heating produce nothing but cleanly, soft, even temperature—*suited to a baby or an athlete.* They should be installed in every home. They save their cost by cutting down the coal bills. They do away with ash-dust, soot, and hard work. Their cleanliness saves much wear on household furnishings. They are so built in small sections that they can be easily put in any house—old or new—farm or city.

Any person, no matter how inexperienced, may easily operate an IDEAL Boiler. It requires less care than a parlor stove.

A No. 3-22 IDEAL Boiler and 600 ft. of 38-in. AMERICAN Radiators, costing the owner **$255**, were used to Hot-Water heat this cottage.

A No. 22 IDEAL Boiler and 240 ft. of 38-in. AMERICAN Radiators, costing the owner **$115**, were used to Hot-Water heat this cottage.

At these prices the goods can be bought of any reputable, competent fitter. This did not include cost of labor, pipe, valves, freight, etc., which installation is extra and varies according to climatic and other conditions.

Our book, "Best Ways to Run the Boiler," furnished with each shipment, tells just how to get the best results in mild, cold, or severe weather, and from any kind of fuel. It presents a few simple rules, readily understood, and if followed gives absolute control of the fire, and makes every ounce of fuel yield its *full* heat.

Our interest in the heating outfit does not cease with its sale, and should any feature in the care or operation of the Boiler not be understood, we most cordially invite correspondence.

Write us to-day for our new and valuable catalog—sent free.

Branches in all large cities

AMERICAN RADIATOR COMPANY

Write to Dept. J CHICAGO

Are YOU One

The man "up top" is the envy of the "Bunch" because of his training, his better position, his better salary, his better opportunities. Are *you* one of the "bunch?"

If you are, there is an easy way out—a way to a better position and a better salary—and, what is best, in the line of work that is most congenial. ***There is absolutely no obstacle in the way.*** The International Correspondence Schools of Scranton will train you wherever you live, whatever you do, whatever you earn, whatever schooling you have had, and whatever spare time you have at your disposal. The attached coupon will bring you full particulars without placing you under obligation to spend a cent.

Get out of the "bunch"—the malcontents—the "grouches"—the "never-get-theres." Thousands of others have done it through I. C. S. help—*you* can. On an average, 300 students

UP FROM

When I enrolled for the Electric Lighting and Railways Course I was motorman on the lines now owned by the I. U. T. Co., of Indiana. After finishing my Course, all but drawing, I asked for and received a letter from the schools; this I showed to the General Manager of the General Electric Co., Fort Wayne, Indiana, and got a position at once, worked eight days and got a foremanship of a department at $75 per month. Worked one month and was offered $80 to take charge of the shops for the Conneaut & Erie Traction Company, accepted and worked for them six months and got a raise to $90. (Signed) E. H. CLARK,
N. Girard, Pa.

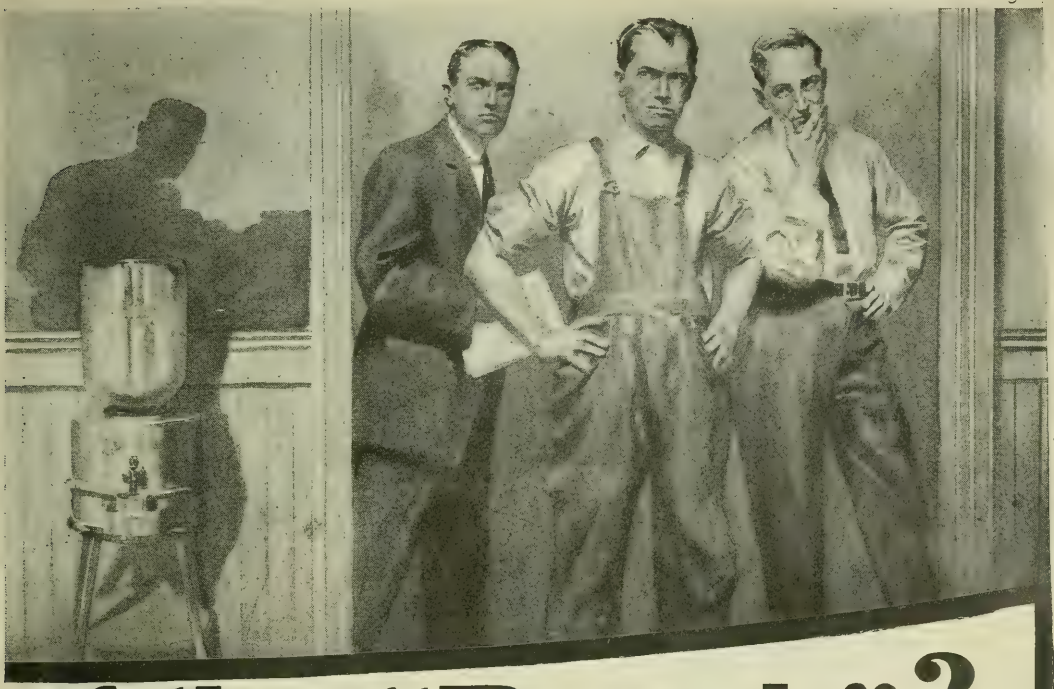
When I enrolled I was an instrument man in the service of the St. Louis Terminal R. R. I have been in the Civil Engineering Department of the Mo. Pac. Ry. Co. for the greater portion of the past six years and am now Assistant Engineer of same. When I applied for a position with this road, I showed my I. C. S. Certificate and, after a perusal of same, the representative of the Company said to me: "I guess you will do all right. When can you report for duty?"
(Signed) W. H. MOORE,
404 14th St., Alexandria, La.

At the time I enrolled in your School of Mines, I was loading coal in a mine, but before I had more than half completed the Course, the position of Mine Electrician and Mine Boss was given me on account of my knowledge of electricity and electrical machinery that I received from the Schools. Just as I was completing the Course I was given the position of Mine Foreman.

My salary has been increased, the enjoyment of living has been doubled on account of the mental training I received from my Course, to say nothing about the facts learned about the Science of Mining. (Signed) H. W. MERRIMAN,
Dell Roy, Ohio.

At the time of my enrollment I was employed as dry goods clerk on a small salary; am now holding a position as a Licensed Stationary Engineer in the Wabash R. R. Shops at this place. I feel it is the best money I ever invested, and have spoken many good words for the I. C. S.
(Signed) CHARLES HAGERTY,
Montpelier, Ohio.

Mark the



of the "Bunch"?

every month VOLUNTARILY report promotion from the "bunch" as the *direct result* of I. C. S. training. During October the number was 308. ***YOU mark the coupon for similar success.***

Believe in yourself. It is logical to believe that if thousands of men who could barely read and write when they enrolled have succeeded through I.C.S. help—***you*** can. Read the testimonials, then mark the coupon. Everything will be made clear to you. No matter how long it takes you to qualify, the I.C.S. is always there and always ready.

Anyhow, it costs nothing to find out how the I. C. S. can help you, so why not mark and mail the coupon NOW? Everything comes to him who gets after it.

THE RANKS

I enrolled for the Complete Steam Engineering Course while a fireman in a stationary plant. Two months after my enrolment in the Schools, I was advanced to chief fireman, and one year later accepted a position as Assistant Engineer with the Toronto Water Works. I held that for five years and made application for my present position, that of Chief Engineer for the City of Toronto, which I received after a competitive examination, there being seventy-two applicants. I received 97 per cent on same. I was the only Scranton School Student in the lot. I have been able to increase my salary 300 per cent. since my enrolment.
(Signed) JAMES BANNAN,
69 Tecumseth St., Toronto, Canada.

I have found the Complete Architectural Course of great value to me, although not having completed the Course. When I enrolled I was a carpenter earning $1.50 a day. My earning capacity has been greatly increased and my work is easier, and the best of all, *I am practically my own boss.* I am now Supervising Architect of the New Courthouse Building at Peru, Ind., and have full control of the work. The building will cost $300,000. Besides this I am doing other work in the designing and planning of buildings.
(Signed) H. P. FIKE,
30 Adams Ave., Peru, Ind.

Coupon

SUCCESS COUPON

INTERNATIONAL CORRESPONDENCE SCHOOLS,
Box 1003 D, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for the position before which I have marked X.

General Foreman	Banking
R. R. Shop Foreman	Electrical Engineer
R. R. Traveling Eng.	Machine Designer
R. R. Trav'g Fireman	Electrician
Locomotive Engineer	Mining Engineer
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Air-Brake Inspector	Foreman Machinist
Air-Brake Repairman	Chemist
Mechanical Engineer	Assayer
Mechanical Draftsman	Architect
R. R. Construction Eng.	Bookkeeper
Surveyor	Stenographer
Civil Engineer	Ad Writer

Name _____

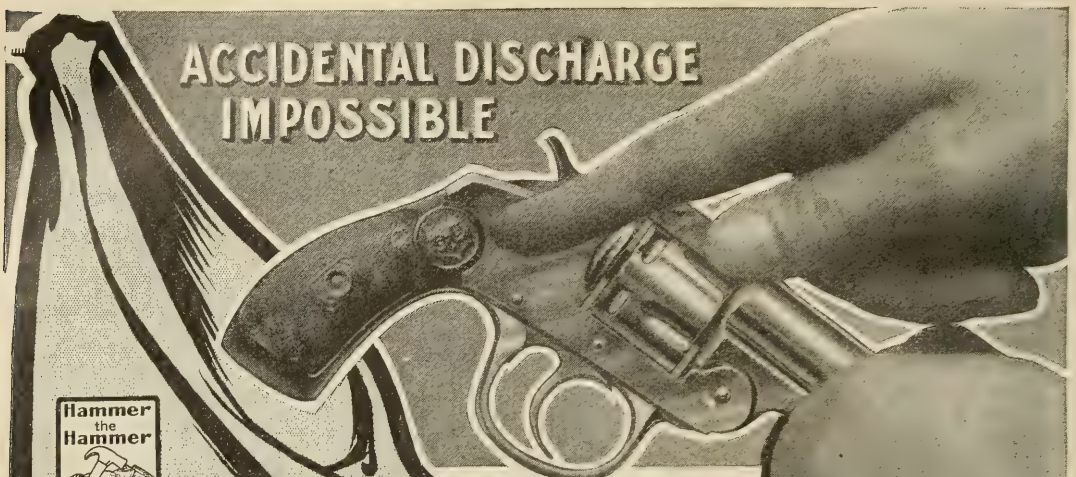
Employed by _____ R. R.

Employed as _____

Street and No. _____

City _____ State _____

ACCIDENTAL DISCHARGE IMPOSSIBLE



Hammer the Hammer

Accidental Discharge Impossible

The Iver Johnson is the only revolver that is worthy of the name "Safety."

It simply can't go off until the trigger is deliberately pulled.

It can be safely dropped, thrown against a wall, or you can

Hammer the Hammer

It won't go off. When you pull the trigger, it shoots straight and hits hard.

Our Free Book, "Shots," tells in detail why the Iver Johnson is the best revolver for the pocket, the desk and all-round use. Handsome in design and perfect in construction. Our catalogue, also free, shows all the mechanical details.

At Christmas Time

be especially careful to guard against inferior articles and substitutes. To get the best, all-around revolver, simply ask for the

IVER JOHNSON

Safety Automatic **Revolver**

And to be sure that it IS a genuine Iver Johnson, look for the Owl's Head on the grip

Iver Johnson Safety Hammer Revolver
Richly nickeled, 3-in. bbl., 22 rim-fire, 32 center-fire, or 3¼ in. 38 center-fire cartridge **$6**

Iver Johnson Safety Hammerless Revolver
Richly nickeled, 3-inch barrel, 32 centre-fire, or 3¼ inch 38 centre-fire cartridge, **$7**

Sold by Hardware and Sporting Goods dealers everywhere, or sent prepaid on receipt of price if dealer will not supply. Look for the owl's head on the grip and our name on the barrel.

IVER JOHNSON'S ARMS AND CYCLE WORKS, 172 River Street, Fitchburg, Mass.

New York: 99 Chambers Street Hamburg, Germany: Pickhuben 4
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Makers of Iver Johnson Single Barrel Shotguns and Iver Johnson Truss-Bridge Bicycles

TRADE MARK IVER JOHNSON

The furnace fire is poor and the house cold.

Jack, too, is cold—and cross.

Suddenly, the door opens and Mother comes in with a "Perfection" Oil Heater.

You can read the answer in Jack's face.

PERFECTION

Smokeless Oil Heater

(Equipped with Smokeless Device)

The Perfection is the best oil heater made from the standpoint of efficiency, simplicity and durability.

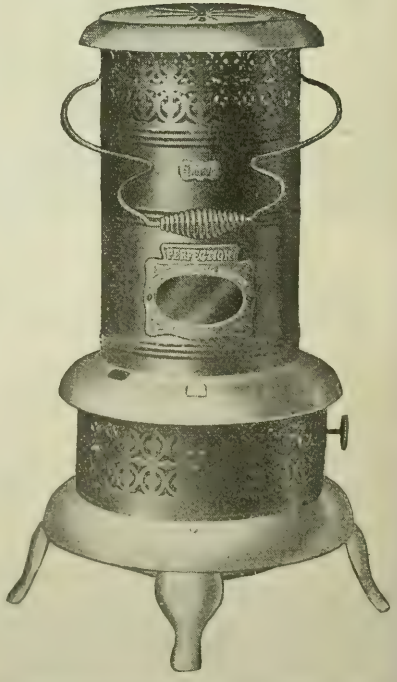
It is the ONLY heater equipped with an

Automatically-Locking Smokeless Device

Turn the wick as high or low as it will go—there's no smoke, no smell—the device prevents either, and permits instant removal for cleaning.

The Perfection has a solid brass font, holding 4 quarts of oil; sufficient to give glowing heat for 9 hours. Solid brass wick carrier; damper top, oil indicator, "Alaska" cold handle.

Finished in Nickel or Japan in various styles.



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Standard Oil Company

(Incorporated)

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For Holiday Presents

Use the Loftis System. It enables you to make beautiful and valuable presents without the outlay of much money. By giving credit and lowest prices we make $5 or $10 do the work that $50 does in a cash store. Don't make the mistake of buying something cheap or trashy when the same money would make the first payment on a beautiful diamond ring, stud, brooch, locket, cuff buttons, ear rings, fine watch, or other article of high grade jewelry from our enormous stock. A diamond is the ideal gift for a loved one—it lasts forever and every day reminds the wearer of your regard.

Diamonds as an Investment Diamonds are a better and safer investment than real estate, banks, insurance or stocks. By the Loftis System you have possession of your property while paying for it, the pleasure of its use and the increase which is sure to follow. Diamonds have advanced in value 10 to 20 per cent annually in recent years. Our prices lowest, terms easiest.

Make Your Holiday Selections Now. Pay as Convenient.

Send for a copy of our beautifully illustrated Holiday Catalog, and in the privacy of your own home, select the articles you desire—we will send them to your home, place of business or express office for your inspection. If you like them, if they are all and more than we claim them to be, pay one-fifth on delivery and the balance in eight equal monthly amounts. We give a guarantee of value and quality with every diamond we sell; also privilege of exchange. We take all the risks and pay all charges.

No. 35

OUR HOLIDAY DIAMOND SPECIAL

Ladies' and Gentlemen's 14k Solid Gold Solitaire

Diamond Rings,
Any style mounting,
$5 A MONTH

LOFTIS BROS & CO. Estb'd 1858

THE OLD RELIABLE ORIGINAL DIAMOND AND WATCH CREDIT HOUSE.
DEPT. 661—92 to 98 STATE ST., CHICAGO, ILL.
BRANCH STORES: PITTSBURG, PA. AND ST. LOUIS, MO.

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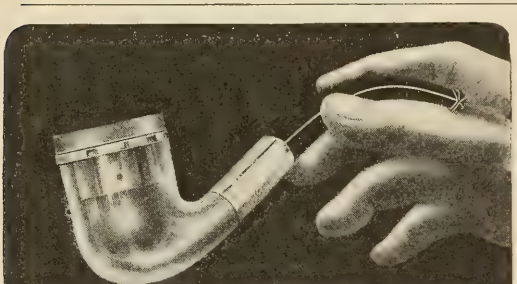


TOBACCO FLAVOR NOT PIPE ODOR

TURCO-AMERICAN GLASS PIPE

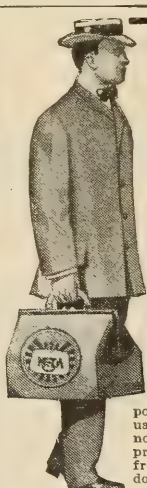
Smokes cool and sweet and clean. It has two bowls. An inner one of fine meerschaum, from which the smoke is drawn through vents into an outer one of tough, annealed, non-absorbent glass. Here the moisture and nicotine collect **and remain.** *That's why only cool, clean smoke reaches the mouth—why the pipe never bites.*

Every grain of tobacco burns to a white ash. No wet residue to throw away and the last whiff is as sweet as the first. Easily cleaned and leaves no offensive smell in rooms or clothes. Send for one. **Smoke it a week and if not satisfied money will be refunded.**

Pipe, with handsome, durable case, $2.00. Without case, $1.50, postpaid. State preference for straight or curved stem.

Send for *Free* booklet, "*History of Smoking*"

TURCO-AMERICAN PIPE CO.
182 South Avenue, Rochester, N. Y.



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Traveling Salesmen are the best paid class of men in the world. Thousands of them earn from $2,500 to $5,000 or $10,000 and on up to as high as $25,000 a year. Many of the richest most famous men in the United States, such as Marshall Field, the great dry goods merchant of Chicago; John W. Gates, millionaire stock broker; Ex-Governor Black of New York; several of Carnegie's millionaires and scores of others got their start selling goods on the road. We receive calls for thousands of Salesmen from the leading firms in the United States and Canada, and have assisted thousands of men to secure good positions or better salaries. A great many of them who had no previous experience and who formerly earned from $40 to $75 a month have since earned from $100 to $500 a month and all expenses, and some a great deal more than that. There are over half a million Traveling Salesmen employed in the United States and Canada and the demand always exceeds the supply. No matter whether you have ever had any experience as a Salesman or whether you are an old hand at it, a few week's study of our Course in Salesmanship by mail will enable you to increase your earning power from two to ten times what it now is and our **Free Employment Bureau** will assist you to get a position should you desire one. More calls for our graduates than we can supply. Hundreds of good positions now open. If you are ambitious and want to get into a profession where your earning capacity is unlimited our free book, "*A Knight of the Grip*" will show you how to do it. Write for it today. Address nearest office, Dept. 403

National Salesmen's Training Association

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$3,000 TO $10,000 A YEAR
IN THE REAL ESTATE BUSINESS

We teach you by mail every branch of the Real Estate, General Brokerage and Insurance Business and appoint you **Special Representative** of the largest co-operative real estate and brokerage company. Excellent opportunities open to YOU. By our system you can begin making money in a few weeks without interfering with your present occupation and without any investment of capital. Our co-operative department will give you more choice, salable property to handle than any other institution. **A Commercial Law Course FREE.** Write for 62-page book.

THE CROSS COMPANY, 3437 Reaper Block, Chicago

Smoke This Box of Velvet FREE

Nothing gives quite so much satisfaction as a pipeful of good tobacco—a pipeful of Velvet.

You are the man we want to convince—you are the man we want to smoke Velvet, and we want you to begin at our expense.

To prove to you that Velvet is the smoothest, cleanest, coolest smoke that ever pleased a particular palate, we want to send you one of our regular size 10c boxes *free*.

We know so well the result of this trial—that you will be convinced that there is no other tobacco as satisfying as Velvet and become a steady consumer,—that we are willing to send you the first box *free*.

Fill in the attached coupon and mail to us today with 5c. in stamps to partially cover the cost of mailing, and we will send you *anywhere in the U. S.* a regular 10c. box of Velvet, the best smoke you ever had, by return mail. This is an opportunity you cannot miss. So send the coupon now.

SPAULDING & MERRICK, Dept. E, Chicago, Ill.

SPAULDING & MERRICK
Dept. E, CHICAGO, ILL.

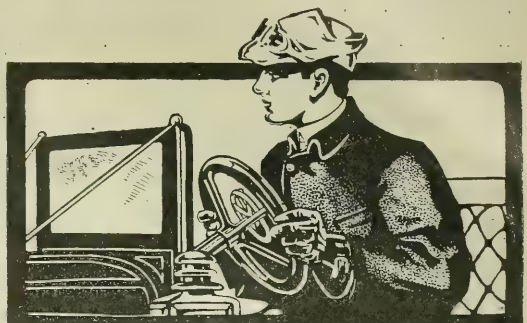
Enclosed find 5 cents in stamps to partially cover cost of mailing complimentary box of "Velvet" *anywhere in the U. S.* **Good only 'till Feb. 1, 1910**

MY NAME _____

MY ADDRESS _____

MY DEALER _____

HIS ADDRESS _____



YOUNG MEN WANTED

EARN

$25.00 to $50.00 Weekly

IN AUTOMOBILE BUSINESS

Chauffeurs, Automobile Salesmen and Repairmen get big pay for pleasant work because the **demand for trained men exceeds supply.** We have taught hundreds (without mechanical ability) and we can teach you in ten weeks if you study a few hours a week. It is **interesting.** Our simple mail course guarantees thoro efficiency because it's **personal.** Ask our graduates who are earning $25.00 weekly or more in positions we obtained for them.

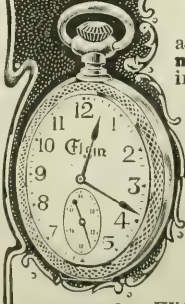
Send to-day for first lesson—it's free.

Chauffeurs and competent men supplied owners and garages.

Empire Auto. Institute, 775 Dake Bldg. Rochester, N.Y.

The Original Automobile School.

PAY NOW AND THEN



We will send for your approval a genuine ¼ **Karat, commercial white, perfect diamond,** in any style 14 karat solid gold mounting, **express prepaid, for $30—$5 down and $3 per month;** or a ⅜ **Karat diamond** of like quality for **$60; $10 down and $5 per month.**

If you are interested in a reliable watch, we offer a **gentleman's** O. F. 12, 16, or 18 size, or **lady's** 6 size, plain or engraved, **20-year guaranteed gold filled case,** fitted with genuine **Elgin** or **Waltham movement at $12.50; $3 down, $1.50 per month.** With hunting case **$16.75.**

Write today for free catalog No. X 87. Remit first payment with order or have goods sent by prepaid express C. O. D. for your inspection.

Herbert L. Joseph & Co

Diamond Importers—Watch Jobbers

217-219 (X87) State Street, Chicago

NEW INVENTION!

No More Wash Day!

NEW METHOD OF CLEANING CLOTHES

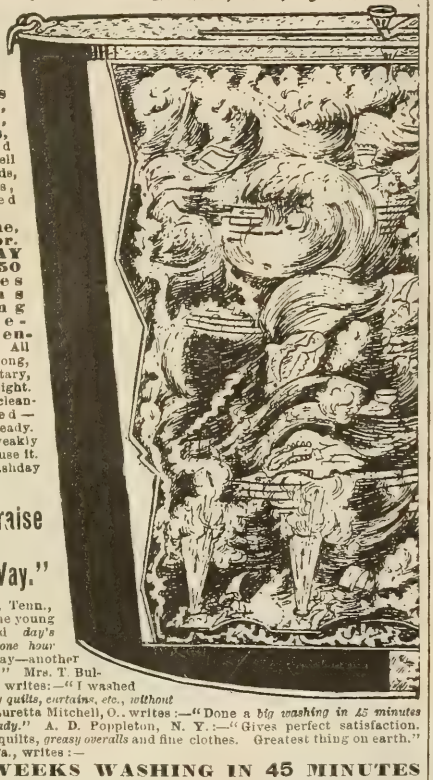
Cleans Family Wash in 30 to 50 Minutes—Woman's Hardest Work Made Easy—No Rubbing, No Motors, No Chemicals.

NOT A WASHING MACHINE

Does in One Operation the Work of Wash Board, Washing Machine and Wash Boiler.

SEE HOW SIMPLE—DIFFERENT, EASY. Put on any stove—add water, then soap, then clothes—**move knob occasionally.** In 5 to 8 minutes first batch clean—next batch same way, same water—in 30 to 50 minutes family wash clean. **No labor, no injury to clothes.**

Over 100,000 sold



Cleans woolens, flannels, blankets, or colored clothes, as well as white goods, finest laces, curtains, bed clothes. **Saves time, fuel, labor. EASY WAY in 30 to 50 minutes cleans washing which before took entire day.** All metal, strong, durable, sanitary, light in weight. Easily used, cleaned, handled—always ready. Child or weakly woman can use it. Saves washday drudgery.

Users Praise the "Easy Way."

J. McGee, Tenn., writes:—"One young lady cleaned *day's washing* in *one hour* with Easy Way—another in *45 minutes.*" Mrs. T. Bullen, Canada, writes:—"I washed *bedding, heavy quilts, curtains, etc., without rubbing.*" Lauretta Mitchell, O., writes:—"Done a *big washing in 45 minutes—sold 3 already.*" A. D. Poppleton, N. Y.:—"Gives perfect satisfaction. Washed bed quilts, *greasy overalls* and fine clothes. Greatest thing on earth." F. E. Post, Pa., writes:—

TWO WEEKS WASHING IN 45 MINUTES

Clothes cleaned *without rubbing.*" J. H. Barrett, Ark., after ordering 38 Easy Ways, says:—"You have the grandest invention I ever heard of." J. W. Myers, Ga., says:—"Find check for 12 Easy Ways. Greatest invention to womanhood, forever abolishing miserable wash day. *Sells itself.*"

AGENTS GETTING RICH

R. O. Cowan, N. Y., placed 13 in 6 hours—(*profit $39.00.*) Mrs. J. Brown sold 10 in 3 days—(profit $30.00). K. J. Blevins, O., writes: "**Made 7 calls, sold 5 one day**"—(profit $15.00). R. H. Latimore, Pa., writes: "Sold 4 this morning. *Never yet turned down.*" A. G. Witt, Pa.: "Received Easy Way yesterday; sold 4 today—not out for orders." Mrs. Gerrish, Mont., ordered sample, then 1 dozen, then 100—*profit over $300.00).* **Just made one shipment 1000 Easy Ways** to Russian agent. N. Boucher, Mass., orders 75 more, says: "Everybody wants one, *best business I ever had.*" A. S. Verrett, La., sold 8 in one day (profit $24.00).

FREE SAMPLE to Agents

We want managers, agents, men or women, home or travelling, all or part time, to show, take orders and appoint agents. **Easy Way new** article, not worked to death. Best seller out. Every family wants one. People glad to see it demonstrated; buy without being asked, and throw away costly washing machines to use it. **Only 2 sales a day means $36.00 a week profit.**

Price only $6.00 ready for use. Sent anywhere. Not sold in stores. ☞ *Order one for your own use.* **YOUR MONEY REFUNDED IF NOT SATISFACTORY.** *Send for Free Sample offer, special agents' proposition, etc.* **Costs nothing to investigate.** Send name and address anyway for full description. Write today.

Harrison Mfg. Co., 177 Harrison Building, Cincinnati, O.

$1.95 for this genuine 17-in. Ostrich Plume

made of the highest grade hard flue ostrich, selected from the male bird. Has a very glossy fiber and is extra wide, with heavy drooping head. **Let us send you this Plume on approval.**

This magnificent French Curl Ostrich Plume is full 17-inch in length.

Send us 15c. to pay express charges, and we will send you this beautiful Plume in black, white or colors, to your express office C. O. D. with privilege of examination. If satisfactory, pay the express agent $1.95 and the Plume is yours. If, however, you do not think this the most marvelous value you ever saw, tell the express agent to return the Plume to us and **we will refund your 15c. Or, if you prefer** to send the full amount, $1.95, we will send the Plume by return mail, **postage prepaid,** and if not satisfactory, we will promptly refund your money. **We take all the risk.** For complete line of Ostrich Feathers, including bargains in Willow Plumes, write for free catalogue.

SPECIAL Full 18-inch Ostrich Plume Black and Colors **$2.28**

SOUTH AFRICAN IMPORTING CO., DEPT. 122, 1841 WABASH AVE., CHICAGO

"I MADE $88.16

first 3 days." writes Mr. Reed of Ohio. Mr. Woodward earns **$170 a month. AGENTS** all making money. Mr. M. L. Smith turned out $301.00 in two weeks. Rev. Crawford made $7.00 first day.

LET US START YOU

in Gold, Silver, Nickel and Metal plating. Prof. Gray's new electro plating machine plates on watches, jewelry, table ware and all metal goods. Prof. Gray's new Royal immersion process, latest method. Goods come out instantly with fine brilliant, beautiful thick plate ready to deliver—no polishing or grinding. Every family, hotel and restaurant wants goods plated.

AGENTS HAVE ALL THEY CAN DO—

people bring it. You can hire boys to do the plating as we do. Men and women gather work for small per cent. Work is fine—no way to do it better. No experience required—**we teach you.** Outfits ready for work when received. Materials cost about 10 cents to do $1.00 worth of plating. ☞ *Demand for plating is enormous.* **WE ARE RESPONSIBLE** and guarantee everything.

Call or write today: Our new plan, testimonials, circulars and **SAMPLE FREE.** Don't wait. Send us your address anyway.

GRAY & CO. PLATING WORKS

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GUIDE BOOK and WHAT TO INVENT.

With valuable List of Inventions Wanted sent free. **ONE MILLION DOLLARS** offered for one invention; **$16,000** for others. Patents secured by us advertised free in World's Progress; sample free.

VICTOR J. EVANS & CO., Washington, D. C.

No. 114 1Kt. Gem Solid Gold Tiffany, $10.00

No. 163 1Kt. Gem Solid Gold Belcher, $15.00

No. 103 1Kt. Gem Solid Gold Stud, $10.00

See Them Before Paying

These gems are Chemical White Sapphires and **can't** be **told** from diamonds except by an expert. So **hard** they **can't** be filed, so will wear **forever** and retain brilliancy. We want you to see these gems—we will pay all expenses for you to see them.

Our Proposition—We will send you either rings or stud illustrated—by express C. O. D. all charges **prepaid**—with privilege of examination. If you like it, pay the express man—if you don't, return it to him and it won't cost you a cent. Fair proposition, isn't it? All mounted in solid gold, diamond mountings. **Send for Booklet.**

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P. O. BOX 4111 INDIANAPOLIS, IND.

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ANY STYLE
DIAMONDS

Flash Like Genuine

Day or night. You can own a diamond equal in brilliancy to any genuine Stone at one-thirtieth the cost.

BARODA DIAMONDS IN SOLID GOLD RINGS

stand acid test and expert examination. We guarantee them. See them first, then pay. Catalogue Free. Patent Ring Measure included for FIVE two-cent stamps.

THE BARODA CO.
Dept. Z, 838 North State Street, Chicago, Ill.

SUCCESS

WHAT'S YOUR OCCUPATION?

THE GRADEN SYSTEM makes successful railroad men by equipping its students for good paying positions in railroad station work and GUARANTEE EMPLOYMENT TO ALL GRADUATES. Railroads today are seeking men trained by this system. Write for Book "What It Does." **THE GRADEN SYSTEM OF RAILROAD TRAINING, 525 Schofield Bldg., Cleveland, O.**

Learn by Mail to

MOUNT BIRDS

Be a Taxidermist. Join our school and learn at home to Mount Birds, Animals, Game Heads, Fishes, Tan Skins, Make Rugs, etc. Easily, quickly learned. Best methods, expert instructors. **Success guaranteed. SPORTSMEN and NATURALISTS**—mount your own specimens. You can save hundreds of dollars and beautifully decorate your home or your office. **FREE**—Beautiful Taxidermy Books and full particulars of this work. **Write today.**
Northwestern School of Taxidermy, 1101 Elwood Bldg., Omaha, Neb.

NO MORE CHAPPED HANDS

KLEANSKIN cures them quickly. Also Chilblains, Saltrheum and all ailments of the skin. Sent postpaid for **25 cents** coin. Agents wanted everywhere.

E. F. STOCKWELL, Dept. 4, Plainville, Mass.

Come! Quick! Danger!

Are you prepared for this call—no matter from which department it comes? Just think what it would mean to have constantly at your elbow for consultation, an expert on the very problems that puzzle you. That's just what you would have in the

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Written by thirty expert Electrical Engineers, the biggest men in the profession. It is a working guide for the student or practical electrician, or a ready reference work for the expert.

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For a short time we will include, as a monthly supplement, absolutely free of charge for one year, the TECHNICAL WORLD MAGAZINE. This is a regular $1.50 monthly, full of Twentieth Century Scientific facts, written in popular form. Also contains the latest discussions on timely topics in invention, discovery, industry, etc.

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Please send me Cyclopedia of Applied Electricity for five days' free examination. Also T. W. for one year. I will send $2 within five days and $2 a month until I have paid $18.80; or notify you and hold the books subject to your order. Title not to pass until fully paid.

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OUTFIT FREE

Brass-Craft is the most popular and valuable Art of the time, and with our stamped articles and simple instructions, materials costing only a trifle can quickly be worked up into articles **worth many dollars.**

Let us send you this Complete outfit consisting of **1 Stippling and Veining Tool, 1 package Polishing Powder, 1 package Coloring Powder, 1 Fine Sandpaper, 1 piece Polishing Plush, and complete material for Handsome Brass-Craft Calendar** (see illustration) as follows: **1 Brass Panel, 1 Wood Panel, 50 Round-Head Brass Tacks, 1 Brass Hanger, 1 Calendar Pad. Furnished with stamped design and full directions for making Calendar worth $1.00**—all in neat box, **FREE** and **prepaid,** to anyone sending us 25 cents to pay cost of packing, shipping, etc.

Ask for FREE CATALOG RR 64

Illustrates hundreds of articles in **Brass-Craft** for use, ornament or profit. The above outfit offer is made for a **limited time only** to quickly introduce our splendid line of **Brass-Craft goods** and distribute our **New Catalog. Write today.**

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Cocoa and Chocolate

One Quality

THE VERY BEST

Insist on getting

Huyler's

RISK 1 CENT—MAKE $2200.00!

Korstad did it in **2 weeks.** Hundreds making phenomenal earnings the "Allen Way." Stoneman. **$2,300 in 60 days**---Langley, **$115 first day.**---Reese saw 60 peop'e, sold 55; result, $320. **WE START YOU---Experience don't matter---Credit given.** Strange apparatus. Gives every home **bathroom for $6.** Energizes water. Cleanses almost automatically. New, exciting business. Risk 1c. (a postal) for proof.

THE ALLEN MFG. CO. **1607 Allen Bldg., Toledo, O.**

FREE RUBY

WRITE AT ONCE FOR GENUINE NATIVE ARIZONA RUBY

Remarkable Offer! Don't Miss It!

We will send it to you absolutely FREE prepaid, to introduce our genuine Mexican Diamonds. These Diamonds exactly resemble finest genuine blue-white Diamonds, stand acid tests, are cut by experts, brilliancy guaranteed permanent, and yet we sell at 1-10 the cost. Best people wear them.

SPECIAL OFFER—For 50c deposit, as guarantee of good faith, we send on approval, registered, either ½ or 1 carat Mexican Diamond at special price. Money back if desired.

Illustrated Catalog FREE. Write today and get Ruby **FREE.**

MEXICAN DIAMOND IMP. CO. Dept., ER. 1, Las Cruces, New Mex.

MINERAL WELLS
TEXAS.

Has best water on earth for the cure of **Rheumatism, Bright's Disease, Diabetes, Constipation, Nervous, Stomach, Liver** and kindred ills. No malaria or fogs. Average winter temperature 57°. 50 hotels and bath houses. Write for testimonials of railroad men.

J. R. REGISTER, Secy.

CRYSTAL Domino SUGAR

2 lb and 5 lb Boxes! · Best Sugar for Tea and Coffee! · By Grocers Everywhere!

FREE FUEL

Most Wonderful Stove Ever Invented

BURNS AIR

Fuel Drawn Principally From Atmosphere

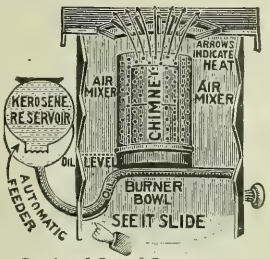
HEATING OR COOKING

Air now burned in this wonderful stove is free to rich and poor alike. No trust in control.

This Valveless, Wickless Automatic Oil-Gas and Air-Burner Stove

automatically generates gas from kerosene oil, mixing it with air.

Scientific test proves it uses **395 barrels of air** to **one gallon** common kerosene oil.



Sectional Cut of Generator.

CHEAPEST FUEL—INTENSE HEAT.

Heat concentrated under cooking vessels and absorbed by articles being cooked or concentrated under Radiator and distributed throughout room.

NOT LIKE THOSE SOLD IN STORES.

Ideal for roasing, cooking, baking, ironing, canning fruit, etc. **In Winter** use Radiator for heating houses, stores, rooms, etc.—always ready. No more carrying coal, kindling, ashes, soot and dirt. **To operate**—turn knob—oil runs into burner—touch a match; it generates gas, which passes through air mixer, drawing in about a barrel of air to every large spoonful of oil consumed. **That's all.** It is self-regulating, no more attention.

Same heat all day or all night. For more or less heat, simply turn knob. There it remains until you come again. To put fire out, turn knob, raising burner—oil runs back into can, fire's out. As near perfection as anything in the world. Not dangerous like gasoline. No dirt, soot or ashes. No leaks, nothing to clog or close up. No wick—not even a valve, yet heat is under perfect control. **D. CARN, IND.**, writes: "It costs only **41-2 cents a day for fuel.**" **L. NORRIS, VT.**, writes: "The Harrison Oil-Gas Generators are wonderful savers of fuel, at least **50** to **75 per cent** over wood and coal." **E. ARNOLD, NEB.**, writes: "**Saved $4.25 a month for fuel** by using the Harrison Oil-Gas Stove. My range costs me $5.50 per month, the Harrison **$1.25** per month." **Wm. Baering, Ind.**, writes: "We warmed a room when it was 10 below zero with one Radiator." **Rev. WM. TEARN, ME.**, writes: "This morning 16 below zero—soon after lighting Harrison Oil-Gas Stove temperature rose to summer heat."

Heater and Cooker or Heating Exclusively

ALL SIZES, PRICES LOW $3.25 AND UP

Sent to any address

Absolutely safe from explosion. Not dangerous like gasoline. Simple, durable; lasts for years. Saves expense, drudgery and fuel bills.

Give this stove a trial. Send no money—only send your name and address. Write today for full description, thousands of testimonials. Our 1910 Proposition. Circulars FREE.

EXCITING BUSINESS FOR AGENTS

SALESMEN—MANAGERS—Men or Women at home or traveling, all or part time—showing—taking orders—appointing agents, etc. **MESSRS. HEAD & GRAZER, TEXAS,** writes: "Enclose order for $81.00. RUSH. Sell like hot cakes. **Sold 50 stoves in our town.**" **B. L. HEUSTED, MICH.**, writes: "**Been out one day and sold 11 stoves.**" This patent new. **Nothing like it.** Demand enormous. Agents reaping great harvest. Where operated people stop, look, get interested, want to buy at once. Show dozen, sell ten. **Write today for special agents' new plan. Send no money.** World unsupplied. Get in early for territory.

THE WORLD MANUFACTURING CO.
135 World Bldg. CINCINNATI, O.

STARTLING

Watch Offer

The Great Burlington Special at an Anti-Trust Price!

The world's masterpiece of watch manufacture now sold direct!—The most amazing offer ever made in the whole history of the watch industry—an offer which has absolutely PARALYZED competition—**the offer of the genuine Burlington Special direct to the public at the rock-bottom ANTI-TRUST PRICE,** without middlemen's profits.

The Fight is On!

We will not be bound by any system of price-boosting contracts with dealers. We will not submit to any "high profit" selling scheme. We will not be dictated to by ANY Trust.

NO MATTER WHAT IT COSTS, we are determined to push our independent line **even if we should have to fight a combination of all the Watch Manufacturers of the country!**

And so we are making this offer—the most sweeping, astounding offer ever made on a high-grade watch. The famous BURLINGTON direct **and at the same price WHOLESALE Jewelers must pay.**

And in order to make the proposition doubly easy for the public we will even allow this rock-bottom price, if desired, on terms of

$2.50 a Month

Don't miss this wonderfully liberal offer. Sign and mail coupon now. Rock-bottom, anti-trust price, whether you buy for cash or time.

POST YOURSELF!

Be sure to get posted on watches and watch values, trust-method prices and anti-trust prices **before** you buy a watch. Learn to judge watch values!

Get the Burlington Watch Company's

FREE WATCH BOOK

Read our startling exposure of the amazing conditions which exist in the watch trade today. Read about the anti-trust fight. Read about our great $1,000.00 Challenge. Learn how you can judge watch values. Send your name and address for this valuable **FREE BOOK** now—TODAY. Sign & mail coupon.

BURLINGTON WATCH CO.
Dept. 1101,
19th & Marshall Blvd.,
Chicago,
Ills.

Please send me, *without obligation* and prepaid, your free book on watches and copy of your $1,000.00 challenge, with full explanations of your cash or $2.50 a month offer on the superb ANTI-TRUST Burlington Watch.

Burlington Watch Co., Dept. 1101, 19th & Marshall Blvd., Chicago, Illinois

Name.....

Address.....

No letter necessary, coupon will do.

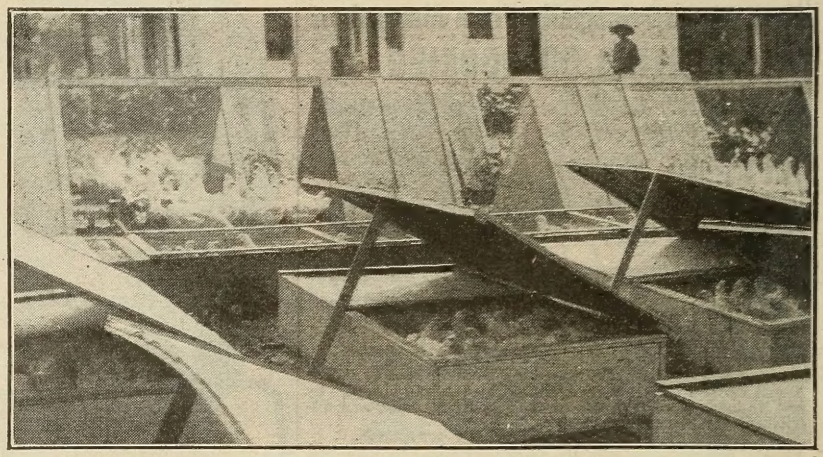
A LIVING FROM POULTRY

$1,500.00 FROM 60 HENS IN TEN MONTHS ON A CITY LOT 40 FEET SQUARE.

TO the average poultryman that would seem impossible and when we tell you that we have actually done a $1,500 poultry business with 60 hens on a corner in the city garden 40 feet wide by 40 feet long we are simply stating facts. It would not be possible to get such returns by any one of the systems of poultry keeping recommended and practiced by the American people, still it is an easy matter when the new

PHILO SYSTEM

is adopted.



THE PHILO SYSTEM IS UNLIKE ALL OTHER WAYS OF KEEPING POULTRY,

and in many respects just the reverse, accomplishing things in poultry work that have always been considered impossible, and getting unheard-of results that are hard to believe without seeing.

THE NEW SYSTEM COVERS ALL BRANCHES OF THE WORK NECESSARY FOR SUCCESS

from selecting the breeders to marketing the product. It tells how to get eggs that will hatch, how to hatch nearly every egg and how to raise nearly all the chicks hatched. It gives complete plans in detail how to make everything necessary to run the business and at less than half the cost required to handle the poultry business in any other manner.

TWO POUND BROILERS IN EIGHT WEEKS

are raised in a space of less than a square foot to the broiler almost without any loss, and the broilers are of the very best quality, bringing here three cents per pound above the highest market price.

OUR SIX-MONTHS-OLD PULLETS ARE LAYING AT THE RATE OF 24 EGGS EACH PER MONTH

in a space of two square feet for each bird. No green cut bone of any description is fed, and the food used is inexpensive as compared with food others are using.

Our new book, the PHILO SYSTEM OF POULTRY KEEPING, gives full particulars regarding these wonderful discoveries, with simple, easy-to-understand directions that are right to the point, and 15 pages of illustrations showing all branches of the work from start to finish.

DON'T LET THE CHICKS DIE IN THE SHELL.

One of our secrets of success is to save all the chickens that are fully developed at hatching time, whether they can crack the shell or not. It is a simple trick and believed to be the secret of the ancient Egyptians and Chinese which enabled them to sell the chicks at 10 cents a dozen.

CHICKEN FEED AT 15 CENTS A BUSHEL.

Our book tells how to make the best green food with but little trouble and have a good supply, any day in the year, winter or summer. It is just as impossible to get a large egg yield without green food as it is to keep a cow without hay or fodder.

OUR NEW BROODER SAVES 2 CENTS ON EACH CHICKEN.

No lamp required. No danger of chilling, overheating or burning up the chickens as with brooders using lamps or any kind of fire. They also keep all the lice off the chickens automatically or kill any that may be on them when placed in the brooder. Our book gives full plans and the right to make and use them. One can easily be made in an hour at a cost of 25 TO 50 CENTS.

TESTIMONIALS.

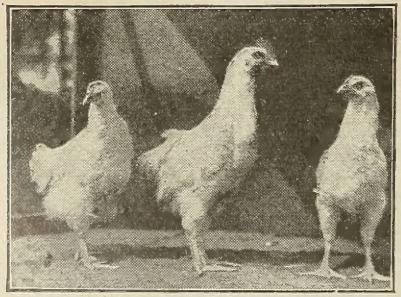
Bellefontaine, Ohio, June 7, 1909.

Mr. E. R. Philo, Elmira, N. Y.

Dear Sir:—I just want to tell you of the success I have had with the Philo system. In January, 1909, I purchased one of your Philo System books and I commenced to hatch chickens. On the third day of February, 1909, I succeeded in hatching ten chicks. I put them in one of your fireless brooders and we had zero weather. We succeeded in bringing through nine; one got killed by accident. On June 1, one of the pullets laid her first egg, and the most remarkable thing is she has laid every day since up to the present time. Yours truly, R. S. LaRue.

Valley Falls, N. Y., Sept. 10, 1909.

My dear Mr. Philo:—I want to tell you how pleased I am with my use of the Philo System during the past year. The fowls laid exceptionally well in the New Economy Coop, much better in proportion than those in my old style house. The fireless brooder has solved the problem for me of raising extra early chicks. I am going into your methods more extensively this coming year. Wishing you success, I am, sincerely yours, (Rev.) E. B. Templer.



THREE POUND ROASTERS TEN WEEKS OLD

South Britain, Conn., April 14, 1909.

Mr. E. R. Philo, Elmira, N. Y.

Dear Sir:—I have followed your system as close as I could; the result is a complete success. If there can be any improvement on nature, your brooder is it. The first experience I had with your System was last December. I hatched 17 chicks under two hens, put them as soon as hatched in one of your brooders out of doors and at the age of three months I sold them at 35c a pound. They then averaged 2 1-2 lbs. each, and the man I sold them to said they were the finest he ever saw, and he wants all I can spare this season. Yours truly A. E. Nelson.

Elmira, N. Y., Oct. 30, 1909.

Mr. E. R. Philo, Elmira, N. Y.

Dear Sir:—No doubt you will be interested to learn of our success in keeping poultry by the Philo System. Our first year's work is now nearly completed. It has given us an income of over $500.00 from six pedigree hens and one cockerel. Had we understood the work as well as we now do after a year's experience, we could easily have made $1000.00 from the six hens. In addition to the profits from the sale of pedigree chicks, we have cleared over $960.00, running our Hatchery plant consisting of 56 Cycle Hatchers. We are pleased with the results, and expect to do better the coming year. With best wishes, we are, very truly yours, (Mrs.) C. P. Goodrich.

Send $1.00 direct to the publisher and a copy of the latest revised edition of the book will be sent you by return mail.

E. R. PHILO, PUBLISHER, 342 THIRD ST., ELMIRA, N. Y.

Fairy Soap
does not sail under false colors. It has nothing to hide—no dyes to deceive—no high perfumes to delude the sense of smell—no sting to worry tender skins. It is just a white, pure, floating, oval cake of soap goodness, made from edible products. Though it costs you but 5c., you can buy no better soap at any price.
THE N. K. FAIRBANK COMPANY, CHICAGO.
FAIRY
"Have You a Little 'Fairy' in Your Home?"

Ever-Ready

Safety Razor

TRADE MARK FACE

With 12 Blades $1

Best for Xmas and 364 other days in the year—the best Safety Razor at any price.

$1.00 for the complete outfit means a safety frame that will last a lifetime—twelve (12) of the finest blades ever produced—a clever stropper device and all compactly arranged in a fine button-lock case—and all for $1.00.

Extra Blades 10 for 50c

Each EVER-READY Blade separately wrapped in patented package—keen—clean—sanitary. Exchange 10 dull blades for ten new ones any time for 35c.

Sold by **Hardware, Cutlery, Drug and General Stores** everywhere. Refuse imitations. Mail orders prepaid to any address.

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